



"At Nissan, we expect to save at least \$135 million annually thanks to the efficiencies that Windows Server 2003 and Exchange Server 2003 are helping us achieve."

Toshihiko Suda
Senior Manager, Nissan Motor Company, Ltd.

An upgrade to Microsoft Windows Server System made it possible for 50,000 worldwide employees at Nissan Motor Company to have more secure remote access to their e-mail and calendars from any Internet connection, without the hassle and expense of a VPN. Here's how: By deploying Windows Server 2003 and Exchange 2003, not only did Nissan IT meet the CEO's demand for better global collaboration, they expect to save at least \$135 million by streamlining their messaging infrastructure. To get the full Nissan story or find a Microsoft Certified Partner, go to microsoft.com/wssystem

Windows Server System™ includes

Server Platform	Windows Server™
Virtualization	Virtual Server™
Data Management & Analysis	SQL Server™
Communications	Exchange Server
Portals & Collaboration	Office SharePoint® Portal Server
Integration	BizTalk® Server
Management	Systems Management Server
	Microsoft® Operations Manager
Security	Internet Security & Acceleration Server

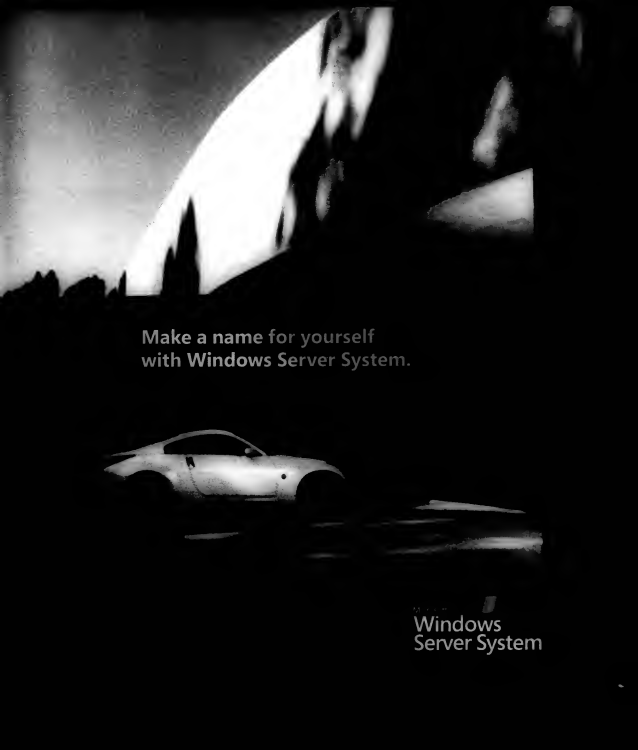
Plus other software products

NAME

Mr. 50,000 Global
Remote and Mobile
Users Connected
Without a VPN.

NISSAN





Make a name for yourself
with Windows Server System.

Microsoft
Windows
Server System

WE'RE PUTTING COMPUTER R&D WHERE IT BELONGS.

In your business.



Dancing robots and Artificial Intelligence make great press release material, but what exactly do they do to improve your business?

At Fujitsu, we're concerned with R&D that helps CIOs run their business more efficiently. In fact, we invest billions of dollars annually in developing technology solutions and providing the right products for our customers to achieve maximum enterprise performance. This R&D effort is the foundation of the Fujitsu PRIMEPOWER[®] and PRIMERGY[®] server lines, which deliver mission-critical reliability, availability and serviceability.

Thanks to our real-world R&D philosophy, we've become a company that offers CIOs the high-performance mobile computers, scalable, reliable servers, and managed and professional services they need.

If you are looking for an IT partner whose R&D investment actually does your company some good, visit us.fujitsu.com/computers/RD or call 1-800-831-3183.

FUJITSU

THE POSSIBILITIES ARE INFINITE



PRIMEPOWER[®] Servers



LifeBook[®] Notebooks



Stylis[®] Tablet PCs



PRIMERGY[®] Servers

Fujitsu, the Fujitsu logo, and PRIMEPOWER, Stylis, and PRIMERGY are registered trademarks of Fujitsu Limited. LifeBook is a registered trademark of Fujitsu America, Inc. © 2006 Fujitsu Limited. All rights reserved. Fujitsu, the Fujitsu logo, and PRIMEPOWER, Stylis, and PRIMERGY are registered trademarks of Fujitsu Limited. All rights reserved. Fujitsu, the Fujitsu logo, and PRIMEPOWER, Stylis, and PRIMERGY are registered trademarks of Fujitsu Limited. All rights reserved.

CONTENTS

04.25.05

Scholars & Barbarians

In the **Management** section: In his new book, *What the Dormouse Said*, John Markoff examines the confluence of technology, politics and psychedelics that gave birth to the PC — and the continuing controversy over who owns information. **Page 42**

Ready for Trouble?

In the **Technology** section: Crisis management comes down to basics, say experienced users. Make a realistic disaster recovery plan and deploy the technology to make it work. And make sure the plan is quickly accessible to everyone in the organization. **Page 25**

NEWS

- 4 Oracle plots a best-of-breed course for its Fusion application convergence project.
- 5 Web services users hope that enterprise service bus middleware will help them reduce management complexity.
- 5 Vendors' mixed financial results for Q1 may reflect selective IT spending by users amid economic concerns.
- 6 A cybersecurity monitoring center formed as a public/private partnership launches a pilot project to track network intrusions and send information about them to the government.
- 6 Verizon releases software to integrate corporate voice and messaging services and to give remote workers control over communications.
- 10 Unisys announces a long-distance data replication and recovery system as the first part of an on-demand effort.
- 14 Global Dispatches: Amazon.com's European IT services unit will provide e-commerce technology to a U.K. retailer; and Intel plants a Wi-Fi hot spot near the North Pole.
- 14 Advanced Micro Devices launches dual-core versions of its Opteron processors, but Dell sticks with Intel chips.
- 19 Q&A: Microsoft's Jim Allchin talks about his company's Longhorn OS plans and the benefits of 64-bit computing.

TECHNOLOGY



- 28 Ghosts in the Machine. Virtual machines are being used by an increasing number of companies to help manage computing resources.
- 32 Future Watch: Staying Out in Front. As HP Labs research runs the gamut from data center management tools to an architecture for the world's tiniest computer.
- 34 Security Manager's Journal: Firewall Request Gets Third Degree. Mathias Thurnham must conduct due diligence before opening a firewall to let a partner company transfer data.

MANAGEMENT

- 39 Beat the Clock. Temporary CIOs face all the challenges of their permanent counterparts in a dramatically condensed time frame.
- 45 Career Watch. Answering a reader's question about the value of certifications, a fund for the laid-off employees of PeopleSoft, and a wealth gap for knowledge workers.

OPINIONS

- 6 On the Mark: Mark Hall reports that an appliance due late next month might help turn the tide in the battle against spyware.
- 20 Don Tennant takes a new look at the battle among Web browsers — a technology Bill Gates once described as "a trivial piece of software."
- 20 Virginia Robbins knows how important it is to find the sweet spot for IT spending.
- 21 David Moschella thinks HP and its new CEO have to re-investigate the company's core product technology.
- 36 Douglas Schweitzer says that any IT security plan has to start with the basics — physical security — and he suggests some ways to improve it.
- 46 John Columbus warns that if you don't have time to follow written standard processes, the minutes you save today may cost you time and dollars tomorrow.
- 52 Frankly Speaking: Frank Hayes says new legislation to reform the software patent process will be a gift to Microsoft. But it will also help the industry — and you.

DEPARTMENTS/RESOURCES

- At Deadline Briefs **4**
News Briefs **6, 10**
Letters **21**
IT Careers **48**
Company Index **50**
How to Contact CW **50**
Share Talk **52**

ONLINE

www.computerworld.com

The Appreciation Gap

IT MANAGEMENT: Columnist Kathie Derby explains how to help employees feel better about their jobs using some simple appreciation techniques. **Q QuickLink 63625**

Safest Places on the Web

E-BUSINESS: Privacy columnist Jay Cline identifies 20 Web sites with the best privacy policies on the planet, based on their adherence to Europe's "safe harbor" principles and other factors. **Q QuickLink 63665**

They Can't Steal Data You Don't Have

SECURITY: You can help beat data thieves by using effective data management — and that includes not saving what you no longer need, say two experts at Kroll Ontrack. **Q QuickLink 63698**

Log Management Tips

SECURITY: Whether building a logging tool or evaluating a log management product, there are at least five factors you should consider, says columnist Jian Zhen. **Q QuickLink 63440**

TV Challenges

STORAGE: Television presents unique storage, bandwidth and delivery challenges. André Mendes of PBS discusses his organization's approach to managing storage resources, in this free webcast. **Q QuickLink 65710**

What's a QuickLink?

Throughout each issue of Computerworld you'll find free QuickLink codes pointing to related content on our Web site. Also, at the end of each story, a QuickLink to that story online facilitates sharing it with colleagues. And enter one of these codes into the QuickLink box, which is at the top of every page on our site.

ONLINE DEPARTMENTS

- Breaking News
Q QuickLink 65710
Newsletter
Subscriptions
Q QuickLink 61420
Knowledge Centers
Q QuickLink 62570
The Online Store
Q QuickLink 61420

AT DEADLINE

Nasdaq to Adopt
Instinet's Engine

BY LUCAS MEARIN

Nasdaq Stock Market Inc. said Friday that it will standardize on Instinet Group Inc.'s electronic trade-matching technology as part of its planned acquisition of New York-based Instinet for \$254.5 million in cash.

"They have the leading [electronic trading] technology on the planet," Nasdaq CEO Bob Givofsky said during a press conference Friday afternoon. He added that Instinet's matching engine offers response times of about 5 milliseconds on incoming trade orders.

Givofsky said synergies between the Nasdaq and Instinet technology infrastructures are expected to result in an annual savings of \$100 million in the first three years after the deal is completed. He didn't disclose further details, saying only that Nasdaq has "a clear plan that it finds to be an exciting road map."

Nasdaq spent \$187 million to develop its own SuperMontage electronic order display and execution system, which went live in 2002. The homegrown technology will in all likelihood be scrapped as a result of the Instinet deal, said Joel Burns, an analyst at Cabot Communications LLC in Boston.

But he added that when SuperMontage was developed, Nasdaq needed it to compete against electronic exchanges such as Instinet and Archipelago (Nasdaq Inc., which is due to merge with New York Stock Exchange Inc. in another deal announced last week).

Compared with the technology integration between the NYSE and Archipelago firms, Nasdaq's challenges in absorbing Instinet are much smaller, Burns said.

"In general, Nasdaq is planning to use the Instinet order-matching system, but its own quote and trade-routing system won't change," he said.

Instinet's electronic marketplace trades about 20% of the Nasdaq-listed volume daily. The acquisition agreement includes two side deals to sell off Instinet's controlling operations. Alameda Venture's shareholders will receive \$1.8 billion in cash. © 50864

Oracle Promises Best-of-Breed Approach on App Convergence

Says its Fusion project will utilize key features from different software lines

BY MARG L. BONGIORNO

NEWTON, MASS.

ORACLE CORP. last week held a series of customer meetings to shed some light on its plan to converge four business application suites, and executives said the vendor will work closely with its various user groups to cull capabilities from each product line.

That should enable the company to craft something akin to a best-of-breed suite, according to Oracle Co-president Charles Phillips. He said at a meeting held here that Oracle will use a service-oriented architecture approach to turn pieces of applications into components, enabling it to mix and match functionality from the different products.

Phillips also said that while Oracle's own database and middleware will be the default software stack for the converged Fusion applications, the company will certify infrastructure software from rival vendors in some cases. For instance, IBM's DB2 database will continue to be supported for users of the AS/400-based J.D. Edwards World applications that Oracle inherited when it acquired PeopleSoft Inc. in January.

Oracle had already announced much of what was discussed last week. And with the Fusion road map still evolving, users interviewed at the event and via telephone posted a variety of yet-to-be-answered questions.

Robert Robinson, business systems supervisor at Durr Industries Inc., a Plymouth, Mich.-based automotive supplier that runs the J.D. Edwards EnterpriseOne software

for midsize companies, said he's curious about how much input users will really have in "building this new beast."

Robinson also questioned how much Oracle will enhance its current applications while developing the converged product line. "The smart user will trust what's being said but verify," he noted. "And we cannot verify until we hit [product rollout] mileposts."

Another user with questions is William Gabby, North American operations manager at Cargill Inc.'s Global Financial Solutions business unit in Minnetonka, Minn. Gabby, a World user, said he wants to know if there is "a future for any of the existing product lines, or will the

only option be Fusion?"

Underlying Fusion technology is due to start appearing this year, and Oracle plans to deliver the converged applications in 2008. But Phillips and John Woolkey, Oracle's senior vice president of applications, reiterated that the applications Oracle acquired when it bought PeopleSoft will be supported

through at least 2013.

"I'm optimistic about the process that's being undertaken by Oracle," said James Whalen, CIO at Boston Properties Inc., a real estate development and management company in Boston. Whalen, the president of the PeopleSoft International Customer Advisory Board,

was a member of a user panel at the Oracle event. He said he expects Fusion to provide an improved application platform for users when it's completed.

The smart user will trust what's being said but verify. And we cannot verify until we hit [product rollout] mileposts.

ROBERT ROBINSON,
BUSINESS SYSTEMS SUPERVISOR
DURR INDUSTRIES INC.

Doug Rademacher, another panelist, is CIO at American Power Conversion Corp., a West Kingston, R.I.-based manufacturer that runs Oracle's E-Business Suite 11i applications.

"As an Oracle user, I'm not that concerned," he said. "My question is, What do I get out of [Fusion], and will Oracle be distracted?"

But Rademacher added that, like Whalen, he's optimistic about the outcome of the convergence effort. © 50846



No Forced March to Fusion for Users, Oracle Says

NEWTON, MASS.

CHARLES PHILLIPS, one of Oracle's co-presidents, stressed at last week's customer meeting here that Fusion encompasses more than a single product and that the rollout of the modular, Java-based applications will be an evolutionary process with no forced-march migrations for users.

As part of the Fusion project, Oracle plans to test business process automation technology with business intelligence tools to allow a company using its software to see, for instance, whether a supplier was able to deliver an item on time in recent transactions.

As another example of what Oracle hopes to accomplish with Fusion, John Woolkey, the ven-

dor's senior vice president of applications, pointed to a compensation tool in its E-Business Suite 11i software. The tool lets users manage employee compensation, including bonuses and stock options, and is similar to technology that PeopleSoft was working on before it was bought by Oracle.

Using service-oriented architecture tools, Oracle may enable PeopleSoft Enterprise users to exploit the 11i compensation management tool without having to scrap their investments in PeopleSoft's human resources software, Woolkey said.

Oracle has also said that it will allow customers to ship software versions when doing upgrades. A company could be several

releases behind the most current version of an application but move directly to the latest one, a process that will continue with Fusion.

Among the most outspoken users have been J.D. Edwards World customers, whose green-screen applications run on IBM's AS/400 systems. Phillips said Oracle remains "committed for the foreseeable future" to World, continues to sell licenses for it and is even considering adding CRM functionality.

Phillips added that Oracle has issued a playbook to help guide its stakeholders on all of the company's myriad products during meetings with prospective customers.

— Marc L. Sanghi

Web Services Users Seek Help From Middleware

Pin hopes for reduced complexity on use of enterprise service bus technology

BY HEATHER HAVENITH
LOS ANGELES

As companies increase their use of Web services to integrate existing applications and build new ones, many are eyeing enterprise service bus (ESB) middleware technology to help reduce their management and routing burdens.

Nine IT managers at Gartner Inc.'s Application Integration and Web Services Summit here last week said they hope that ESBs will ease the complexity and cost of making Web services widely available across their systems.

For example, Ashby Zaman, manager of the Kentucky state government's Office of Technology, said he wants to invest in ESB technology to help manage the commonwealth's Web services. The Web services expose data from back-end revenue and transportation

systems running on mainframes to outward-facing Web applications based on .Net and Java. Kentucky residents can use the Web applications in pay taxes or renew their driver's license online.

"This will open new possibilities for us," Zaman said, adding that putting an ESB in between the different applications would also enable the state's IT staffers to better manage the process of modifying the Web services.

Technology Options

An ESB typically encompasses messaging technology like the Java Message Service or IBM's MQSeries middleware and supports Web services standards for transforming data formats, binding Web services together and routing them without having to write code to change interfaces.

"You want something in the middle that can translate and be transport-independent," said Gartner analyst Roy Schulte. He added, though, that one of the biggest challenges is choosing the right ESB product.

Pure-play ESB vendors such as Sonic Software Corp. and Cape Clear Software Inc. are best for companies that plan to use a variety of application servers, because they're designed to be vendor-neutral, Schulte said. The ESB offerings from vendors such as IBM and Oracle Corp. are best suited for users that are predominantly relying on their application servers, he said.

James Law, an applications programmer at the University of Michigan Health System in Ann Arbor, said the health care organization has just begun using Web services standards for integration purposes. But he believes that an ESB could help lower management costs because application and

An Enterprise Service Bus:

system-to-system messaging could be managed from one software stack. "Now we have messaging in one place and the application infrastructure in a separate silo," Law said. Chicago-based Health Care Service Corp., an insurance company that operates Blue Cross and Blue Shield divi-

sions in Illinois, Texas and New Mexico, is looking for ESB middleware to handle the routing of a growing stable of Web services that automate tasks for health care providers, such as looking up the benefits provided by various plans.

Bob Holzer, a solution architect at the insurer, said that using an ESB to make Web services more widely available would help eradicate some of the current duplication of work by developers in different parts of the company.

Vendors are stepping up their efforts to meet the demand for ESB products. For example, IBM last week unveiled WebSphereMQ Version 6, which was designed to let users create ESBs from a single Eclipse-based workbench.

In addition, users can now more easily turn MQSeries messages into Web services, said Scott Cooley, IBM's WebSphere product director. The new software is due for general release on May 24. **■** 530653

Economic Concerns Lead To Selective IT Spending

BY THOMAS HOFFMAN

The weak financial results reported for the first quarter by some technology vendors, including IBM and Sun Microsystems Inc., suggested that corporate users might be pulling back on their discretionary IT spending.

But other major vendors had strong quarters. And while some IT executives last week confirmed that economic uncertainties have led them to postpone some systems upgrades and new IT investments, other users and analysts said the current pattern is more indicative of a spending "microclimate" in which companies are simply being more selective about their technological spending.

"Our company is an industry that's a lagging indicator of the economy, so we're

kind of laying back" on making new IT investments, said Joseph Puglisi, CIO at Emcor Group Inc., a Norwalk, Conn.-based mechanical and electrical systems contractor.

Although Emcor continues to expand its use of Oracle Corp.'s OneWorld XE ERP software and has just launched an identity management project to boost its IT security, "we're not ready to undertake any major programs for the time being," Puglisi said.

"We're just doing what's needed and making investments where there's clear returns."

One company that has throttled down its IT spending in response to renewed economic concerns is pharmaceutical maker Wyeth. Even though the Madison, N.J.-based company last week reported 44% profit growth year

over year for the first quarter, it has decided to postpone its PC and server replacement plans for this year "due to the overall financial environment," said CIO Bruce Fadem.

Wyeth normally replaces its PCs every three years and upgrades its servers every three to five years, according to Fadem. "We've pushed them all out another year for the time being," he said.

Jan Campbell, CEO of Nu-

cleus Research Inc. in Wellesley, Mass., said he doesn't expect many companies to reduce their IT budgets as a result of the current economic instability.

But Campbell added that he is seeing a shift away from committing tens of millions of dollars to large IT projects in favor of emphasizing smaller-scale deployments that can deliver more focused returns on investment.

Howard Rubin, an analyst at Gartner Inc., said he has observed increased IT spending by companies this year in areas such as security and storage technologies that are needed to support Sarbanes-Oxley Act compliance initiatives. But that isn't enough to end the four-year run of sluggish IT spending, he added.

With uneven economic growth overall, "companies will be as frugal as they need to be with IT spending," Rubin said. "It's not a happy time."

Of course, IT spending varies from one company to another. At Schneider National Inc., for example, spending is up 15% year over year, said Bob Grawien, vice president of application development and business intelligence at the Green Bay, Wis.-based transportation provider. Grawien said the increase is being driven by a mix of internally developed systems and new implementations of off-the-shelf software. **■** 530655



Nasdaq to Adopt Instinet's Engine

BY LUCAS MERRIAN

Nasdaq Stock Market Inc. said Friday that it will standardize on Instinet Group Inc.'s electronic trade-matching technology as part of its planned acquisition of New York-based Instinet for \$934.5 million in cash.

"They have the leading [electronic trading] technology on the planet," Nasdaq CEO Bob Drefeld said during a press conference Friday afternoon. He added that Instinet's matching engine offers response times of about 5 milliseconds on incoming trade orders. Drefeld said synergies between the Nasdaq and Instinet technology infrastructures are expected to result in an annual savings of \$100 million in the first three years after the deal is completed. He didn't disclose further details, saying only that Nasdaq "has a clear plan that fits into our existing road map."

Nasdaq spent \$107 million to develop its own SuperMontage electronic order display and execution system, which went live in 2002. The homegrown technology will in all likelihood be scrapped as a result of the Instinet deal, said Jodi Burns, an analyst at Celent Communications LLC in Boston. But she added that when SuperMontage was developed, Nasdaq needed it to compete against electronic exchanges such as Instinet and Archipelago Holdings Inc., which is due to merge with New York Stock Exchange Inc. in another deal announced last week.

Compared with the technology integration issues that the NYSE and Archipelago face, Nasdaq's challenges in absorbing Instinet are much smaller, Burns said. "In general, Nasdaq is planning to use the best order-matching system, but its own quote and trade-reporting system won't change," she said.

Instinet's electronic marketplace trades about 25% of the Nasdaq-listed volume daily. The acquisition agreement includes two side deals to sell off Instinet's nontrading operations. Altogether, Instinet's shareholders will receive \$1.9 billion in cash. **© 53984**

Oracle Promises Best-of-Breed Approach on App Convergence

Says its Fusion project will utilize key features from different software lines

BY MARC L. SODIN

OF A.T. & T.

ORACLE LAST week held a series of customer meetings to shed some light on its plan to converge four business application suites, and executives said the vendor will work closely with its various user groups to take capabilities from each product line.

That should enable the company to craft something akin to a best-of-breed suite, according to Oracle Co-president Charles Phillips. He said at a meeting held here that Oracle will use a service-oriented architecture approach to turn pieces of applications into components, enabling it to mix and match functionality from the different products.

Phillips also said that while Oracle's own database and middleware will be the default software stack for the converged Fusion applications, the company will certify infrastructure software from rival vendors in some cases. For instance, IBM's DB2 database will continue to be supported for users of the AS-400-based J.D. Edwards World applications that Oracle inherited when it acquired PeopleSoft Inc. in January.

Oracle had already announced much of what was discussed last week. And with the Fusion road map still evolving, users interviewed at the event and via telephone passed a variety of yet-to-be-answered questions.

Robert Robinson, business systems supervisor at Dunn Industries Inc., a Plymouth, Mich.-based automotive supplier that runs the J.D. Edwards EnterpriseOne software

for midsize companies, said he's curious about how much input users will really have in "building this new beast."

Robinson also questioned how much Oracle will enhance its current applications while developing the converged product line. "The smart user will trust what's being said but verify," he noted. "And we cannot verify until we see the product rollout in progress."

Another user with questions is William Gahby, North American operations manager at Cargill Inc.'s Global Financial Solutions business unit in Minnetonka, Minn. Gahby, a World user, said he wants to know if there is "a future for any of the existing product lines, or will the

only option be Fusion?"

Underlying Fusion technology is due to start appearing this year, and Oracle plans to deliver the converged applications in 2008. But Phillips and John Winkley, Oracle's senior vice president of applications, reiterated that the applications Oracle acquired when it bought PeopleSoft will be supported through at least 2013.

"I'm optimistic about the process that's being undertaken by Oracle," said James Whalen, CIO at Boston Properties Inc., a real estate development and management company in Boston.

Whalen, the president of the PeopleSoft International Customer Advisory Board, was a member of a user panel at the Oracle event. He said he expects Fusion to provide an improved application platform for users when it's completed.



ORACLE'S PHILLIPS
Fusion project will
combine the best
of four suites.

No Forced March to Fusion for Users, Oracle Says

NEWTON MASS

ORACLE PHILLIPS, one of Oracle's co-presidents, stressed at last week's customer meeting here that Fusion encompasses more than a single product and that the rollout of the modular, Java-based applications will be an evolutionary process with no forced-march migrations for users.

As part of the Fusion project, Oracle plans to mix business process automation technology with business intelligence tools to allow a company using its software to see, for instance, whether a supplier was able to deliver an item on time in recent transactions.

As another example of what Oracle hopes to accomplish with Fusion, John Winkley, the ven-

dor's senior vice president of applications, pointed to a compensation tool in its E-Business Suite software. The tool lets users manage employee compensation, including bonuses and stock options, and is similar to technology that PeopleSoft was working on before it was bought by Oracle.

Using service-oriented architecture tools, Oracle may enable PeopleSoft Enterprise users to exploit the 11 compensation management tool without having to scrap their investments in PeopleSoft's human resources software, Winkley said.

Oracle has also said that it will allow customers to skip software versions when doing upgrades. A company could be several

The smart user will trust what's being said but verify. And we cannot verify until we hit [product rollout] milestones.

ROBERT ROBINSON,
BUSINESS SYSTEMS SUPERVISOR
DUNN INDUSTRIES INC.

Doug Rademacher, another panelist, is CIO at American Power Conversion Corp., a West Kingston, R.I.-based manufacturer that runs Oracle's E-Business Suite 11i applications.

"As an Oracle user, I'm not that concerned," he said. "My question is, What do I get out of [Fusion], and will Oracle be distracted?"

But Rademacher added that, like Whalen, he's optimistic about the outcome of the convergence effort. **© 53946**

releases behind the most current version of an application but move directly to the latest one, a process that will continue with Fusion.

Among the most outspoken users have been J.D. Edwards World customers, whose green-screen applications run on IBM's AS/400 systems. Phillips said Oracle remains "committed for the foreseeable future" to World, continues to sell licenses for it and is even considering adding CRM functionality.

Phillips added that Oracle has issued a playbook to help guide its salespeople on all of the company's myriad products during meetings with prospective customers.

—Marc L. Sodin

THE PEOPLE AND INFORMATION IN THE ORIGINAL PUBLICATION MAY AFFECT THE QUALITY OF THE MICROFORM EDITION

Web Services Users Seek Help From Middleware

Pin hopes for reduced complexity on use of enterprise service bus technology

BY HEATHER HAVENSTEIN

As companies increase their use of Web services to connect existing applications and build new ones, many are eyeing enterprise service bus (ESB) middleware technology to help reduce their management and routing burdens.

Nine IT managers at Gartner Inc.'s Application Integration and Web Services Summit here last week said they hope that ESBs will ease the complexity and cost of making Web services widely available across their systems.

For example, Ashish Zaman, manager of the Kentucky state government's Office of Technology, said he wants to invest in ESB technology to help manage the commonwealth's Web services. The Web services expose data from back-end revenue and transportation

systems running on mainframes to outward-facing Web applications based on .Net and Java. Kentucky residents can use the Web applications to pay taxes or renew their driver's licenses online.

"This will open new possibilities for us," Zaman said, adding that putting an ESB in between the different applications would also enable the state's IT staffers to better manage the process of modifying the Web services.

Technology Options

An ESB typically encompasses messaging technology like the Java Message System or IBM's MQSeries middleware and supports Web services standards for transforming data formats, binding Web services together and routing them without having to write code to change interfaces

You want something in the middle that can translate and transport independent and Gartner analyst Bob Schulte. He added though that one of the biggest challenges is choosing the right ESB product.

Pure-play ESB vendors such as Sonic Software Corp. and Cape Clear Software Inc. are best for companies that plan to use a variety of application servers, because they're designed to be vendor-neutral, Schulte said. The ESB offerings from vendors such as IBM and Oracle Corp. are best suited for users that are predominantly relying on their application servers, he said.

James Law, an applications programmer at the University of Michigan Health System in Ann Arbor, said the health care organization has not begun using Web services standards for integration purposes. But he believes that an ESB could help lower management costs because application and

An Enterprise Service Bus:

system-to-system messaging could be managed from one software stack. "Now we have messaging in one place and the application infrastructure in a separate silo," Law said. Chicago-based Health Care Service Corp., an insurance company that operates Blue Cross and Blue Shield divi-

sions in Illinois, Utah and New Mexico, is seeking an ESB middleware to handle the routing of a growing volume of Web services that it uses for tasks for health care providers such as looking up the birth date provided by various providers. Bob Holder, a solution architect at the insurer, said that using an ESB to make Web services more widely available would help eradicate some of the current duplication of work by developers in different parts of the company.

Vendors are stepping up their efforts to meet the demand for ESB products. For example, IBM last week unveiled WebSphereMQ V5.5, which was designed to let users create ESBs from a single Eclipse-based workbench. In addition, users can now more easily turn MQSeries messages into Web services, said Scott Gossby, IBM's WebSphere product director. The new software is due for general release on May 24. **■** 53953

Economic Concerns Lead To Selective IT Spending

BY THOMAS HOFFMAN

The weak financial results reported for the first quarter by some technology vendors, including IBM and Sun Microsystems Inc., suggested that corporate users might be pulling back on their discretionary IT spending.

But other major vendors had strong quarters. And while some IT executives last week confirmed that economic uncertainties have led them to postpone some systems upgrades and new IT investments, other users and analysts said the current pattern is more indicative of a spending "microclimate" in which companies are simply being more selective about their technology spending.

"Our company is in an industry that's a lagging indicator of the economy, so we're

kind of laying back" on making new IT investments, said Joseph Puglisi, CIO at Emcor Group Inc., a Norwalk, Conn.-based mechanical and electrical systems contractor.

Although Emcor continues to expand its use of Oracle Corp.'s OneWorld XE ERP software and has just launched an identity management project to boost its IT security,

"we're not ready to undertake any major programs for the time being," Puglisi said. "We're just doing what's needed and making investments where there's clear returns."

One company that has throttled down its IT spending in response to renewed economic concerns is pharmaceutical maker Wyeth. Even though the Madison, N.J.-based company last week reported 44% profit growth year

over year for the first quarter, it has decided to postpone its PC and server replacement plans for this year "due to the overall financial environment," said CIO Bruce Fadem.

Wyeth normally replaces its PCs every three years and upgrades its servers every three to five years, according to Fadem. "We've pushed them all out another year for the time being," he said.

Ian Campbell, CEO of Nu-

cleus Research Inc. in Wellesley, Mass., said he doesn't expect many companies to reduce their IT budgets as a result of the current economic instability.

But Campbell added that he is seeing a shift away from committing tens of millions of dollars to large IT projects in favor of emphasizing smaller-scale deployments that can deliver more focused returns on investment.

Howard Rubin, an analyst at Gartner Inc., said he has observed increased IT spending by companies this year in areas such as security and storage technologies that are needed to support Sarbanes-Oxley Act compliance initiatives. But that isn't enough to end the four-year run of sluggish IT spending, he added.

With uneven economic growth overall, "companies will be as frugal as they need to be with IT spending," Rubin said. "It's not a happy time."

Of course, IT spending varies from one company to another. At Schneider National Inc., for example, spending is up 15% year over year, said Bob Graeven, vice president of application development and business intelligence at the Green Bay, Wis.-based transportation provider. Graeven said the increase is being driven by a mix of internally developed systems and new implementations of off-the-shelf software. **■** 53935

by the Numbers

COMPANY	REVENUE		PROFIT	
	Q1 '05	Q1 '04	Q1 '05	Q1 '04
AT&T	\$7,020	\$7,500	10%	10%
EMC	\$2,240	\$1,870	10%	10%
Intel	\$9,430	\$8,090	10%	10%
Juniper Networks	\$448.3M	\$224.1M	10%	10%
Luxant Technologies	\$2,340	\$2,300	10%	10%
SAP	\$2,220	\$2,000	10%	10%

BRIEFS

U.S. Land Agency Shuttles Web Site

The Bureau of Land Management has again shut down its Web site because of concerns about the security of its IT systems. A spokeswoman for the BLM said that the site was turned off April 8 after a systems audit by the U.S. Department of the Interior's inspector general "revealed potential weaknesses." She declined to say when the agency expects to restore the Web site, which has been shut down several times since late 2001.

Cisco Pushes Back Against Juniper

Responding to gains by rival Juniper Networks Inc. in the market for carrier-class networking equipment, Cisco Systems Inc. said the XR version of its routing software will become available on its 12000 Series routers in June. The XR software currently supports only Cisco's high-end CRS-1 systems. Cisco is also upgrading the software that runs on its 7600 Series routers.

Microsoft to Tie IM To Mobile Devices

Microsoft Corp. announced plans to extend its Live Communications Server 2005 instant messaging and collaboration software to mobile devices, via a Windows Mobile-based client that's due for beta-testing in the second half of the year. Microsoft said the mobile software's user interface will be similar to the one in Office Communicator 2005, the PC messaging client for LCS.

Short Takes

A U.S. judge in Baltimore dismissed a lawsuit filed against Microsoft by several California cities and counties but gave them permission to amend the antitrust portion of their claims. ... NCI INC. last week pledged to restore network services to users within 3.5 hours of a failure.

ON THE MARK



Tenacious Spyware Slips Past Weak . . .

... defenses offered by current technologies. Most anti-spyware tools apply a range of protections, such as URL filtering or signature analysis, but they catch less than 40% of the spyware that sneaks onto corporate computers, according to tests reported on

Spyware-Warrior.net. The study, done last fall, showed that even the best scanners overlook more than one-fourth of the spyware on PCs. Blue Coat Systems Inc. in Sunnyvale, Calif., claims that its upcoming Spyware Interceptor appliance can dramatically improve your defense efforts. Chris Hargett, a Blue Coat product manager, says the company has already surveyed 73 million Web sites to determine which ones carry spyware, be it knowingly or unknowingly. Blue Coat's engineers found "tens and tens of thousands of sites" rife with the pesky programs.

Hargett says Interceptor will let end users navigate to a spyware-tainted site but doesn't allow the malware to slip through to their computers. It also recognizes when

executable code has been hidden in a non-executable file such as a JPEG and stops the nefarious program from firing up. And because mobile users often

pick up spyware outside the corporate network, Interceptor can stop the performance-sucking programs from contacting their home Web sites to report on what they have learned from infected machines. The appliance can handle 100 to 1,000 PCs on a network and is priced at \$2,295, plus a subscription fee that starts at \$695 for 100 users. It's due to ship in May '05.

Predict an application's performance . . .

... before you unleash it on your network. Software modeling technology that HyperFormix,

Intercept spyware on your net.

HOT TECHNOLOGY TRENDS, NEW PRODUCT NEWS AND INDUSTRY BUZZ BY MARA HALL

Inc. in Austin plans to release this week promises to help IT managers "predict the impact of change" that a new application will bring to a network, says CEO Noel Bernard. She notes that the Performance Designer tool can predict response times from an end user's perspective by applying more than 1,700 templates of the possible infrastructure configurations that applications will work within. You pick the appropriate template and run your code through its paces in a virtual IT world. Companies engaged in application consolidation work will particularly benefit, Bernard claims. Pricing starts at \$800,000.

Track VoIP performance in real time . . .

... to determine where the hang-ups are. With the ClearSight Distributed Analyzer, you can literally watch how your end users' voice-over-IP conversations are going. "The real-time flow of conversation views are broken down into a time-ladder diagram," says Bill Berkman, CEO of ClearSight Networks Inc. in Belmont, Calif. It means that the diagram visualizes step by step how data packets move across the wire. A technician can even replay conversations to analyze faulty VoIP connections. The \$6,500 software, available this week, can also analyze security protocols such as Kerberos and decode IPv6 packets.

Application availability is all about . . .

... money, ultimately. So later this quarter, Fidelia Technologies Inc. in Princeton, N.J., will update its NetVigil Containers software to estimate the direct financial cost of down or debilitated applications. Fidelia President Vito



BERNARD Tool predicts app effects.

Aggarwal says NetVigil lets you create so-called application containers that include all aspects of your IT infrastructure — network availability, database response time, server CPU utilization and more. Fidelia's Data Gathering Engines keep track of the performance and availability of up to 1,000 devices apiece and feed the data into your containers. At a glance, a sysadmin can see whether there's a problem and where it originated. In the upcoming release, NetVigil will let you apply monetary values to each container.

Aggarwal says that knowing the true cost of troubled apps will help IT "prioritize which applications are more important and which ones to fix first." Or, perhaps admins will ask their chief financial officers to set the priorities. Pricing for NetVigil starts at \$40,000.

Telecommuter PCs down? No problem . . .

... so long as it's the first week of August. The Brinkford, Conn.-based PC-Turnoff Organization is urging families to turn off their home computers from Aug. 7 this year. "Ourselves of the computer shares many of the same negative effects of too much television," the group claims. Such as: Creating fat kids who sit around all day sipping lollipops and munching Twinkies while mousing their way to imaginary areas of the Web. Noble idea or nonsense? Can't say. But the real question is: Will corporate IT declare a PC-Turnoff Week? Please? **53908**



AGGARWAL Follow the money to fix apps.

BRIEFS

U.S. Land Agency Shuttles Web Site

The Bureau of Land Management has again shut down its Web site because of concerns about the security of its IT systems. A spokeswoman for the BLM said that the site was turned off April 9 after a systems audit by the U.S. Department of the Interior's inspector general "revealed potential weaknesses." She declined to say when the agency expects to restore the Web site, which has been shut down several times since late 2001.

Cisco Pushes Back Against Juniper

Responding to gains by rival Juniper Networks Inc. in the market for carrier-class networking equipment, Cisco Systems Inc. said the XR1 version of its routing software will become available on its 12000 Series routers in June. The XR1 software currently supports only Cisco's high-end CRS-1 systems. Cisco is also upgrading the software that runs on its 7600 Series routers.

Microsoft to Tie IM To Mobile Devices

Microsoft Corp. announced plans to extend its Live Communications Server 2006 instant messaging and collaboration software to mobile devices, via a Windows Mobile-based client that's due for beta-testing in the second half of the year. Microsoft said the mobile software's user interface will be similar to the one in Office Communicator 2006, the PC messaging client for LBS.

Short Takes

A U.S. judge in Baltimore dismissed a lawsuit filed against MICROSOFT by several California cities and counties but gave those jurisdictions to amend the antitrust portion of their claims. ... MCI INC. last week pledged to restore network services to users within 3.5 hours of a failure.

ON THE MARK



Tenacious Spyware Slips Past Weak . . .

... defenses offered by current technologies. Most anti-spyware tools apply a range of protections, such as URL filtering or signature analysis, but they catch less than 40% of the spyware that sneaks onto corporate computers, according to tests reported on

SpywareWarrior.net.

The study, done last fall, showed that even the best scanners overlook more than one-fourth of the spyware on PCs. Blue Coat Systems Inc. in Sunnyvale, Calif., claims that its upcoming Spyware Interceptor appliance can dramatically improve your defense efforts. Chris Hargett, a Blue Coat product manager, says the company has already surveyed 73 million Web sites to determine which ones carry spyware, be it knowingly or unknowingly. Blue Coat's engineers found "tens and tens of thousands of sites" rife with the pesky programs.

Hargett says. Interceptor will let end users navigate to a spyware-tainted site but doesn't allow the malware to slip through to their computers. It also recognizes when

67%
IOC's
estimate of
PCs loaded
with spyware

executable code has been hidden in a nonexecutable file such as a JPEG and stops the nefarious program from firing up. And because mobile users often

pick up spyware outside the corporate network, Interceptor can stop the performance-sucking program from contacting their home Web sites to report on what they have learned from infected machines. The appliance can handle 100 to 1,000 PCs on a network and is priced at \$2,295, plus a subscription fee that starts at \$695 for 100 users. It's due to ship on May 31.

Predict an application's performance . . .

... before you unleash it on your network. Software modeling technology that HyPerFormix

Integrates applications
on your net.

HOT TECHNOLOGY TRENDS, NEW PRODUCT NEWS AND INDUSTRY BUZZ BY MARK HALL

Inc. in Austin plans to release this week promises to help IT managers "predict the impact of change that a new application will bring to a network," says CEO Noel Barnard. She notes that the Performance Designer tool can predict response times from an end user's perspective by applying more than 1,700 templates of the possible infrastructure configurations that applications will work within. You pick the appropriate template and run your code through its paces in a virtual IT world. Companies engaged in application consolidation work will particularly benefit, Barnard claims. Pricing starts at \$100,000.

Track VoIP performance in real time . . .

... to determine where the hang-ups are. With the ClearSight Distributed Analyzer, you can literally watch how your end users' voice-over-IP conversations are going. "The real-time flow of conversation views are broken down into a time-ladder diagram," says Bill Berkman, CEO of ClearSight Networks Inc. in Fremont, Calif. He means that the diagram visualizes step by step how data packets move across the wire. A technician can even replay conversations to analyze faulty VoIP connections. The \$6,500 software, available this week, can also analyze security protocols such as Kerberos and decode IPv6 packets.

Application availability is all about . . .

... money, ultimately. So later this quarter, Fidelia Technology Inc. in Princeton, N.J., will update its NetVigil Continues software to estimate the direct financial cost of down or debilitated applications. Fidelia President Vikas

Aggarwal says NetVigil lets you create so-called application containers that include all aspects of your IT infrastructure — network availability, database response time, server CPU utilization and more. Fidelia's Data Gathering

Engines keep track of the performance and availability of up to 1,000 devices apiece and feed the data into your containers. At a glance, a sysadmin can see whether there's a problem and where it originated. In the upcoming release, NetVigil will let you apply monetary values to each container.

Aggarwal says that knowing the true cost of troubled apps will help IT "prioritize which applications are more important and which ones to fix first." Or, perhaps admins will ask their chief financial officers to set the priorities. Pricing for NetVigil starts at \$40,000.

Telecommuter PCs down? No problem . . .

... so long as it's the first week of August. The Bradford, Conn.-based PC-Turnoff Organization is urging families to turn off their home computers from Aug. 1-7 this year. "Oversue of the computer shares many of the same negative effects of too much television," the group claims. Such as Creating fat kids who sit around all day dipping Jell-O and munching Twinkies while mousing their way to unsavory areas of the Web. Noble idea or nonsense? Can't say. But the real question is: Will corporate IT declare a PC-Turnoff Week? Please? © 2006

Oracle Applications

Start Your Day With Daily Business Intelligence

- ✓ **Applications with real-time intelligence**
- ✓ **616 pre-built dashboards and reports**
- ✓ **Drill from dashboards to transactions**
- ✓ **All your information in one place**

Oracle Daily Business Intelligence.
Real-time information about your business right out of the box.

ORACLE

**oracle.com/dbi
or call 1.800.633.0651**

Cybersecurity Monitoring Center Begins Pilot Project

Sensors on corporate networks will track intrusions, forward data to feds

BY TODD R. WEISS
PHILADELPHIA

A CYBERSECURITY monitoring organization that was set up two years ago as part of a private-public partnership opened its operations center at the University of Pennsylvania last week and said it has launched a pilot project involving about 30 companies.

The Cyber Incident Detection Data Analysis Center (CIDDAC) will install specially built sensor devices on the networks of participating companies. The sensors will automatically report attacks to CIDDAC, which will evaluate

the intrusion data and pass it on to law enforcement agencies and the participating companies without identifying the one that was attacked.

Charles "Buck" Fleming, executive director of CIDDAC, said companies that are victims of IT security attacks aren't always willing to share their information with the government.

"Companies don't want the FBI looking at their information, even if they're not doing something wrong," he said. "Privacy, trust and anonymity are absolute essentials for the private sector to participate. And without the private sec-

tor, there is no program."

The initial 30 participants, which aren't being identified for security reasons, will pay about \$100,000 each for the installation of the sensors plus one year of monitoring and incident reports.

John Chesson, a special agent at the FBI in Philadelphia, said the sensors are "hardened honeypots" that aren't connected to any actual corporate systems but appear to intruders to be just another machine on a network.

Brian Schaeffer, a member of CIDDAC's board and the chief technology officer at Liberty Bell Bank in Cherry Hill, N.J., said he thinks that the new program adds an important weapon for defending systems against attacks

Schaeffer said intrusion data is currently collected on a company-by-company basis, making it less useful in cases of large-scale attacks. "If I can get some intelligence on another financial institution and how they are being attacked and what they are doing to defend themselves, that's more likely to help me," he said.

According to CIDDAC, law enforcement officials will be able to use the intrusion data to compile attack signatures, which could help investigators identify and neutralize cyber-

security threats more quickly.

Shawn Henry, an assistant special agent at the FBI, said enforcement agencies also hope to use the data to prevent future attacks instead of just reacting to incidents.

Fleming said CIDDAC expects by year's end. The pilot project, which has been in the planning stages for two years, is being funded through a \$200,000 grant from the U.S. Department of Homeland Security and is getting support from the FBI. **CW 53957**

NEW PRODUCT

Verizon Software Links Voice, Messaging

Iobi Enterprise
Verizon Communications Inc.

■ **PRODUCT SUMMARY:** Verizon last week announced an enterprise version of software that lets users receive phone calls, e-mail and instant messages through a single Web-based portal. The Iobi Enterprise tools give workers real-time remote control of phone traffic, messaging alerts and other communications capabilities.

For example, users who are away from their offices can check calls and forward the ones they want to take to devices that are within their reach. The software can be accessed through a PC client. Web browser or voice portal and instantly is aimed at companies that use Center voice services. Support for private branch exchange systems will be added later this year.

Verizon rolled out Iobi offerings for home and small-business users last August, but it took longer than expected to release the enterprise version because it needed more-robust capabilities, said Jan Forrest, manager of Iobi Enterprise services.

■ **USER EXPERIENCE:** Neal Sturm, COO of Fairleigh Dickinson University in Rutherford, N.J., has beta-tested Iobi Enterprise for the past year, and about 30 of his IT staffers have been using it for the past 90 days. He said he likes the flexibility that

the software gives him.

"I'm the kind of person, like most technology people, who enjoys having the ability to be in contact with people and also to control that contact," Sturm said. He noted that he can put people he needs to speak with on an e-mail list that Iobi Enterprise users can immediately put their calls through, while those more important calls and messages are routed to co-workers or into voice mail.

■ **ANALYST ASSESSMENT:** Wu Zhou, an analyst at IDC in Framingham, Mass., said Iobi Enterprise has potential because it lets companies use existing corporate phone lines and telecommunications infrastructures. The challenge for Verizon will be to convince corporate users that the software has benefits beyond how cool it is to be there, he added. "They have to hunker down and figure out how they can communicate this [to prospective users]," Zhou said.

■ **OTHER VENDORS IN THE MARKET:** Siemens Information and Communication Networks Inc., Maf Networks Corp. and Nortel Networks Ltd.

■ **PRICING:** \$2 to \$8 per user on a monthly basis.

■ **AVAILABILITY:** Iobi Enterprise is available now from Verizon to Atlanta, where Verizon provides Center services. It will be offered in additional areas later this year. **CW 53926**

Security Forum's Demise Doesn't End Call for Help

PRIVATE-SECTOR participation remains key to fostering better IT security practices in federal agencies. That's the message from both sides in the wake of a decision earlier this month to pull the plug on the CSO Exchange, a forum that was set up in February to promote information sharing between private-sector security professionals and government IT managers.

Art Yoran, a former director of the National Cyber Security Division at the U.S. Department of Homeland Security, said last week that the idea behind the CSO Exchange is a good one and still needs to be pursued. "If you really want to know what is going on, your best data points are going to come from the private sector," said Yoran, who now works as an independent consultant.

He added that despite mishaps over the possible influence peddling by vendors that led to

the exchange's abrupt demise, federal cybersecurity security officers shouldn't pull back from working with corporate security professionals—including those who work at vendors.

One example in which such participation has yielded substantial benefits is the widely used Common Vulnerabilities and Exposures database, which is maintained by The Mitre Corp. in partnership with the government and various vendors, Yoran said.

The CSO Exchange was the right idea with the wrong approach, said Forrester Research Inc. analyst Michael Rasmussen. He added that the focus should instead be on enabling information sharing between government CSOs and their corporate counterparts.

The exchange was created in response to the dismal overall showing by federal agencies on the 2004 computer security re-

port card released by the House Government Reform Committee in February (QuickLink 52707). U.S. Rep. Tom Davis (R-Vt.), who is chairman of the Government Reform Committee, said when he announced the formation of the CSO Exchange that it would help agencies boost their security grades.

But a spokesman for Davis said the membership fees that vendors would pay to fund the exchange raised concerns about its propriety.

"It evolved in a way that he neither anticipated nor was comfortable with," leading Davis to withdraw his support for the exchange, the spokesman said.

The CSO Exchange was promoted and managed by Steven O'Keefe, principal of O'Keefe & Co., a public relations firm in McLean, Va.

"The program was somewhat miscalculated," O'Keefe said. "There wasn't sufficient focus on what was going to be accomplished." He added that similar forums have been organized by other public-sector companies.

—Julianne Hoyer

Cybersecurity Monitoring Center Begins Pilot Project

Sensors on corporate networks will track intrusions, forward data to feds

BY TODD R. WEISS
PHILADELPHIA

A CYBERSECURITY monitoring organization that was set up two years ago as part of a private/public partnership opened its operations center at the University of Pennsylvania last week and said it has launched a pilot project involving about 30 companies.

The Cyber Incident Detection Data Analysis Center (CIDDAC) will install specially built sensor devices on the networks of participating companies. The sensors will automatically report attacks to CIDDAC, which will evaluate

the intrusion data and pass it on to law enforcement agencies and the participating companies without identifying the one that was attacked.

Charles "Buck" Fleming, executive director of CIDDAC, said companies that are victims of IT security attacks aren't always willing to share their information with the government.

"Companies don't want the FBI looking at their information, even if they're not doing something wrong," he said. "Privacy, trust and anonymity are absolute essentials for the private sector to participate. And without the private sec-

tor, there is no program."

The initial 30 participants, which aren't being identified for security reasons, will pay about \$50,000 each for the installation of the sensors plus one year of monitoring and incident reports.

John Chesson, a special agent at the FBI in Philadelphia, said the sensors are "hardened honeypots" that aren't connected to any actual corporate systems but appear to intruders to be just another machine on a network.

Brian Schaeffer, a member of CIDDAC's board and the chief technology officer at Liberty Bell Bank in Cherry Hill, N.J., said he thinks that the new program adds an important weapon for defending systems against attacks.

Schaeffer said intrusion data is currently collected on a company-by-company basis, making it less useful in cases of large-scale attacks. "If I can get some intelligence on another financial institution and how they are being attacked and what they are doing to defend themselves, that's more likely to help me," he said.

According to CIDDAC, law enforcement officials will be able to use the intrusion data to compile attack signatures, which could help investigators identify and neutralize cyber-

security threats more quickly.

Shawn Henry, an assistant special agent at the FBI, said enforcement agencies also hope to use the data to prevent future attacks instead of just reacting to incidents.

Fleming said CIDDAC expects to be fully operational by year's end. The pilot project, which has been in the planning stages for two years, is being funded through a \$200,000 grant from the U.S. Department of Homeland Security and is getting support from the FBI. © 5/5/05

NEW PRODUCT

Verizon Software Links Voice, Messaging

lobi Enterprise

Verizon Communications Inc.

■ **PRODUCT SUMMARY:** Verizon last week announced an enterprise version of software that lets users receive phone calls, e-mail and instant messages through a single Web-based portal. The lobi Enterprise tools give workers real-time remote control of phone traffic, messaging alerts and other communications capabilities. For example, users who are away from their offices can check calls and forward the ones they want to take to devices that are within their reach.

The software can be accessed through a PC client, Web browser or voice portal and initially is aimed at companies that use Verizon voice services. Support for private branch exchange systems will be added later this year.

Verizon rolled out lobi offerings for home and small-business users last August, but it took longer than expected to release the enterprise version because it needed more robust capabilities, said Len Forrest, manager of lobi Enterprise services.

■ **USER EXPERIENCE:** Neal Stums, COO at Fairleigh Dickinson University in Rutherford, N.J., has been testing lobi Enterprise for the past year, and about 20 of his IT staffers have been using it for the past 90 days. He said he likes the flexibility that

the software gives him.

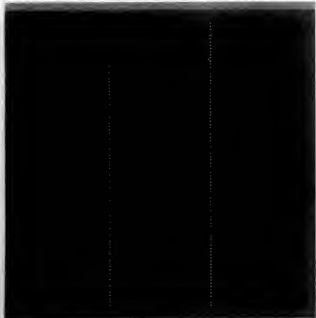
"I'm the kind of person, like most technology people, who enjoys having the ability to be in contact with people and also to control that contact," Stums said. He noted that he can put people he needs to speak with on an exceptions list that lobi Enterprise uses to immediately put their calls through, while less-important calls and messages are routed to co-workers or into voice mail.

■ **ANALYST ASSESSMENT:** Wu Zhou, an analyst at IDC in Framingham, Mass., said lobi Enterprise has potential because it lets companies use existing copper phone lines and telecommunications infrastructure. The challenge for Verizon will be to convince corporate users that the software has benefits beyond how cool it is to techies, she added. "They have to hammer down and figure out how they can communicate this to prospective users," Zhou said.

■ **OTHER VENDORS IN THE MARKET:** Business Information and Communication Networks Inc., Mitel Networks Corp. and Nortel Networks Ltd.

■ **PRICING:** \$2 to \$6 per user on a monthly basis.

■ **AVAILABILITY:** lobi Enterprise is available now from Virginia to Maine, where Verizon provides Century services. It will be offered in additional areas later this year. © 5/5/05



Juniper your Net.



For his company's growth to balloon, Bob knew he'd have to initiate a network change... a prickly subject for sure.

NETWORK EXCELLENCE

QUESTION: IS SWITCHING FROM THE STATUS QUO A STICKY SUBJECT INSIDE YOUR ENTERPRISE? READ ON, THEN LEAD AN ENTERPRISE-WIDE CHANGE FOR THE BETTER.

Simply Juniper your net and change complex legacy configurations into clean-slate convenience. Our comprehensive solutions deliver unprecedented heights of speed, unbelievable depth of processing, unsurpassed security.

► LEADING THE WAY WITH SECURE, ASSURED NETWORKING, ONLY JUNIPER.

Security, with assured performance. Juniper's promise, and a unique, industry-altering brand of networking. Secure & Assured Networking is application driven: End-to-end network control, with guaranteed application delivery and performance – network wide. It's ceaseless security assessment: Deep inspection firewalls, Intrusion Detection and Prevention, as well as application-aware remote access SSL VPNs. It's certain performance: Predictability through high-availability and platform stability – all via scalable platforms. Just because users have access doesn't mean they should have the run of your resources – that's Secure & Assured Networking.

Juniper means security and assurance legacy players can't emulate, only envy. Because it's impossible to bolt onto their antiquated hardware what's built into our innovative software. Juniper architecture creates incredibly scalable solutions, helping eliminate downtime, upgrades and workarounds, while improving speed, reliability and performance. That's how a Juniper network thrives in the most demanding conditions, allowing customers to build and run networks in the harshest, most competitive environments – so forge ahead and fear not.

► A LEADER FOR BRAND LEADERS, IT'S JUNIPER.

Juniper's carrier-class performance, intelligence and security – once available only to SPs – is here for your enterprise. That's why we're the recognized leader, and the preferred brand of mission-critical, industry-defining entities. Trusted by the largest firms on Wall Street, the leading enterprises demanding perfect performance, the most vigilant government agencies on worldwide watch to, count 'em, 25 of the top 25 service providers.

► LEAD THE WAY, WITH JUNIPER.

Need more help convincing your enterprise to leave the status quo? Get insightful case studies and white papers, clear competitive advantages and the networking news you need. And get it here:
<http://www.juniper.net/solutions/literature/>

www.juniper.net

888-JUNIPER (888-586-4737)



© 2005 Juniper Networks



Meet the real thing.



SPIES AMONG US

CNN has dubbed him a modern-day James Bond. **Ira Winkler** has heisted nuclear reactor designs, taken over banks, and stolen billions of dollars—all to help organizations seal security breaches.

Now, this former National Security Agency undercover analyst helps you adapt the security measures of intelligence agencies in order to defend your systems against such threats as script kiddies, foreign intelligence operatives, cyber-terrorists, and worst of all, your trusted insiders.

If *Spies Among Us* reads like an espionage exposé, that's only because it is.

Praise for *Spies Among Us*

"Ira Winkler stands out because he's the real deal: a guy with a resume of companies he's broken into and identities he's stolen in his job as a security and intelligence expert. He reveals the top threats to our personal and national security, with lots of straightforward advice on how to protect yourself. If you've got a social security number, you need to read this book whether you're a CEO or a grandmother."

—SOLEDAD O'BRIEN, CNN



WILEY

Now you know.

wiley.com

BRIEFS

Adobe Agrees to Buy Macromedia

Adobe Systems Inc. said it plans to buy San Francisco-based Macromedia Inc. in a stock-swap deal that will give Adobe control of technologies such as Flash, Dreamweaver and ColdFusion. Analysts said the acquisition will position San Jose-based Adobe to compete against Microsoft Corp. in areas such as document management and the development of rich-media applications.

Lucent Merges Its Product Operations

Lucent Technologies Inc. said that its wireless and fixed-line network equipment units are being combined into a single group. "The greatest near-term opportunity is wireless," Lucent CEO Patricia Russo said, adding that the market for fixed-line gear remains challenging. Murray Hill, N.J.-based Lucent reported a 6% revenue increase year over year for the first quarter.

WRQ, Attachmate To Be Combined

The investment group that bought Seattle-based WRQ Inc. in December said it plans to buy Bellevue, Wash.-based Attachmate Corp. and merge the two vendors of software for automating legacy applications. The combined company will have annual revenue of more than \$200 million and be headed by Jeff Hennen, who now is WRQ's chairman. Financial terms weren't disclosed.

Short Takes

The MOZILLA FOUNDATION has updated the Firefox Web browser in an effort to plug nine security holes, three of which were rated "critical." ... SIBEL SYSTEMS INC. will pay new CEO George Shobson an annual salary of \$1 million, the same amount it was paying ousted top executive J. Michael Lucier.

Unisys Offers Long-Distance Fail-over

Rollout launches on-demand effort

BY PATRICK THODEBAU
UNISYS CORP. last week released a business continuity system for its Intel-based ES7000 Windows servers, saying that the technology will allow fail-over to a backup site thousands of miles away and recovery within 30 minutes.

The system, called SafeGuard 30m, is the first in a series of offerings that Unisys officials said will be released in the coming months under the company's broad Real-Time Infrastructure initiative, also announced last week. RTI, which is philosophically similar to the on-demand and adaptive computing concepts advocated by other IT vendors, will include tools for infrastructure management, consolidation, modeling and migration.

SafeGuard 30m leverages Microsoft Corp.'s clustering software, but Unisys added its own software and hardware to create a turnkey system intended to address one of the challenges of long-distance data replication.

Business continuity systems often use synchronous data transfers at the disaster recovery site, but network latency limits synchronous transfer distances to about 300 kilometers, or 186 miles. Unisys said its approach also permits asynchronous transfers that mitigate data loss over long distances by adding disk-writing appliances and monitoring capabilities. Depending on the size of the deployment, SafeGuard 30m costs \$200,000 to \$1.2 million, Unisys said.

Fast Enough

One ES7000 user, Larry Godee, CIO at First American Title Insurance Co., said he's already using EMC Corp.'s Symmetrix Remote Data Facility software to replicate data from First American's head-

SafeGuard 30m

WHAT IT OFFERS: Recovery of information in less than 30 minutes and support for long-distance data replication.

NIGHT NOW: The disaster recovery product is limited to ES7000 servers and Windows.

UPCOMING: Support for other Intel-based boxes and Linux (no timetable specified).

quarters in Santa Ana, Calif., to a data center in Dallas. EMC's technology also supports both synchronous and asynchronous replication. "It's not sure how Unisys could offer anything faster," Godee said.

Unisys said the RTI suite will include features such as dynamic provisioning and virtualization. But what Larry Mueller, director of informa-

tion systems operations for the Montebello Unified School District in California, really wants is for Unisys to improve the vertical scalability of the ES7000, which he runs with 16 processors.

Mueller said multiple applications running on one instance of Windows Server 2003 Datacenter Edition sometimes conflict. That forces him to separate the applications into partitions and run another instance of the operating system.

The RTI road map doesn't include the huge installed base of the vendor's older product lines. But separately, Unisys has an ongoing effort to help users modernize their ClearPath mainframe systems, which run the OS Q200 and MCP operating systems. Greg Schweitzer, a lead de-

veloper and systems administrator at Oregonian Publishing Co. in Portland, is upgrading the newspaper's ClearPath-based circulation system by adding a Unisys middleware layer and Web server to deliver the application to browsers. The project reduces costs, he said, because instead of the company paying for dedicated terminals and phone lines, circulation workers can access the system over any Internet connection.

Unisys officials have promised that the company will continue to support

its legacy systems, and Schweitzer said he believes that will be the case. But he expressed concern about the company's financial performance: Unisys this month reported a first-quarter net loss of \$44.5 million, as revenue fell 7% year over year. □ **59861**

MORE THIS ISSUE

Get 10 tips to improve your disaster recovery plan. **Page 26**

Unisys Takes Turnkey Approach, Exec Says

LED DARTO, president of systems and technology at Unisys, spoke with Computerworld last week about the company's Real-Time Infrastructure Initiative and its overall technology direction. Excerpts follow:

Many enterprise vendors are jumbling a technology approach similar to RTI. How do you distinguish yourself from Hewlett-Packard, Sun Microsystems, IBM and some of the other vendors? In general, there's no doubt that HP, IBM and ourselves are all playing in the same market. What we think we're doing to separate ourselves is a little bit differently: we're all going to introduce a new series of products that we believe will allow customers to save time and money in solving some of their problems—by taking the technology that we have, some from third parties, integrat-

ing it and testing it, and really pointing it at a specific IT problem, and having it set up and running in a couple of weeks.

Is that more of an out-of-box, out-of-year-end approach?

Take, for instance, the SafeGuard 30M. This is the idea that it's a turnkey solution. It's comprised of hardware, software and services, to a point, to make this a whole product. We're trying to get this to be more of a high-volume, streamlined solution.

THE RTI INITIATIVE

seems to be largely built around Microsoft's software and some ES7000 servers. What are you doing for users of a ClearPath system? That's a whole different market and different [user] base. Our primary effort in the ClearPath space is an overall modernization program. With our most recent introduction of JZEE cap-

ilities for ClearPath, it actually allows a native JZEE program to run on MCP and OS Q200.

What's the future of the MCP operating approach? MCP, as well as OS Q200, really just become core code running a variety of applications while integrating in with the open aspects of Linux as well as Windows. It really just becomes an OS within an OS. The future is to keep the benefits that we have in MCP and use that to differentiate ourselves in the world while we surround that with all the open aspects so it doesn't look like it's locked in the old mainframe.

Is there an end-of-life road map for users of MCP? No—don't see it at all.

—Patrick Thodebau

READ MORE ONLINE

Go to our Web site for the full interview with Lee Darto.

Circle 14 on Reader Service card
www.computerworld.com



SAS SOFTWARE FOR
BUSINESS INTELLIGENCE

LOW

POWER USERS & SOFTWARE GO BEYOND IT

CONNECTIONS

RECOMMENDATIONS, DECISIONS

INTELLIGENCE, ANALYTICS

Power users have been tapping into SAS' unmatched breadth and depth of analytics for years to drive their organizations forward. Now everyone at every level can experience the power of SAS software. Most business intelligence vendors deliver historical reports, leaving it up to decision makers to arrive at recommendations based on yesterday's answers. SAS is different. Our combined strengths in business intelligence and analytics help you understand the past, monitor the present, and predict outcomes. SAS takes you *Beyond BI*™ by making it easy to put the power to know into the hands of everyone.

go Beyond BI™ at www.sas.com/BI • 1 866 580 7118 • Free case study



COLOR



For just pennies a page, the versatile Xerox color prints, plus advanced multi-function

The remarkable Xerox WorkCentre Pro 2128 gives you an affordable way to add brilliant color and an impressive set of valuable features to any office. This advanced digital system

can print, copy, scan, e-mail or fax simultaneously, even when other jobs are running. It also scans hard copy directly to e-mail, improving productivity. Walkup simplicity means easy

xerox.com/office/24 1-800-ASK-XEROX ext. 24

© 2008 XEROX CORPORATION. All rights reserved. XEROX WorkCentre® and Xerox Color® are trademarks of XEROX CORPORATION in the United States and/or other countries.

SENSE



WorkCentre® Pro 2128 delivers rich 1200 x 1200 dpi performance. Xerox Color. It makes business sense.

access to razor sharp 28 ppm black-and-white and 21 ppm quality color documents. And it consolidates all these functions without compromising reliability.

Xerox WorkCentre Pro 2128



Print Copy Scan Fax E-mail

To learn more, see our full line of multi-function systems, digital copiers and award-winning color printers. It makes perfect sense for any business.

XEROX®

Technology | Document Management | Consulting Services



GLOBAL DISPATCHES

Amazon, U.K. Retailer Cut E-commerce Deal

AMAZON STARTS ITS FIRST EUROPEAN U.K. services unit in Luxembourg. Last week announced that it will provide e-commerce technology and hosting services to London-based Marks and Spencer PLC, one of the U.K.'s largest retailers.

Amazon.com provides similar services in the U.S. to retail Web sites such as Linet.com, Toysrus.com and Borders.com. Amazon Services Europe will provide the technology behind the Marks and Spencer Web site as well as its in-store, telephone and customer service systems. Financial terms of the deal weren't disclosed.

Marks and Spencer's existing Web site gets more than 24 million visits per year. "But our e-commerce and customer ordering capabilities have yet to reach their full potential," Steven Sharp, the retailer's director of marketing and e-commerce, said in a statement. The first phase of the contract

with Amazon is expected to produce an integrated ordering service by mid-2006 for in-store, online and telephone channels, the two companies said.

Wi-Fi Hot Spot Placed Near the North Pole

LONDON

WEST MINSTER from Intel Corp. Moscow office has installed what may be the world's most northerly Wi-Fi hot spot, 130 kilometers from the North Pole, the company announced on April 14. The hot spot was deployed in the Arctic region's Barneo camp, a temporary tent complex for scientists and expeditioners that's located on a drifting block of ice in the 86th parallel north.

The Intel employees put an 802.11b/g access point inside the camp's headquarters and set up a wireless LAN using four laptops equipped with the company's Centrino mobile technology. One of the laptops was placed outside and connected to a satellite phone to provide Internet access.

GLOBAL FACT

The year the Asia-Pacific region will surpass North America in the number of professional software developers.

Source: IDC

Opteron Goes Dual-Core, But Dell Still Isn't Buying

BY TOM KRAZY

Advanced Micro Devices Inc. last week again beat Intel Corp. to market with cutting-edge technology, announcing two series of Opteron CPUs with a pair of processing cores on a single chip. But while Hewlett-Packard Co., IBM and Sun Microsystems Inc. said they plan to use the dual-core devices in servers, Dell Inc. remains an Opteron holdout.

During a meeting with financial analysts in Austin earlier this month, Dell executives reiterated that the company plans to remain an Intel-only vendor, at least for now. Dell flirted with AMD last year, as Intel foundered with manufacturing missteps and

product road map detours. But Intel has stabilized its chip development plans since last November, according to analysts, and Dell has eased back on its AMD-friendly rhetoric.

Jeff Clarke, senior vice president in charge of Dell's enterprise products, said in an interview with Computerworld in February that the company was standing by Intel on processors (Quicklink 52668). At the analyst meeting this month, Clarke noted that Dell had seen only "marginal increases" in demand for AMD's chips from customers.

University of Buffalo professor Russ Miller, who runs the school's Center for Computing Research, cited problems with

the bus-architecture design for Intel's upcoming dual-core Xeon processors as one reason why Opteron is an alluring option for high-performance computing users as well as some business customers. The Intel chips will shunt a bus connection to the memory in servers, which could affect performance on applications that require fast shuffling of data to and from memory.

Miller said that in conversations with Chairman Michael Dell and other Dell executives, he has expressed his satisfaction with the company's engineering and sales teams. But he also told them of his desire for an Opteron-based server from Dell. "We don't see an option from Dell," Miller said. "But we know this is important to our industry."

Intel isn't expected to release its dual-core Xeon

The equipment survived the cold—the air temperature at the camp rarely rises above -30 degrees Celsius—and worked reliably, according to Intel staffer Vsevolod Semenov. The main problems were short battery life and what Semenov described as "back seat drivers."

■ SCARLETT PRUITT, IDG NEWS SERVICE

Munich Taps Debian Linux for Desktops

DÜSSELDORF, GERMANY

HEALTHY BY MUND is announced on April 13 that it will use the free Debian distribution of Linux instead of a commercial version for its move from Windows NT to the open-source operating system on 14,000 desktop PCs.

The municipality selected Softonic AG and Giesecke GmbH, two German IT services firms that submitted a joint bid to install and support the Debian software. The so-called Linux project is expected to be completed by the end of 2008.

There was a high level of participation in the bid process, which showed that Linux on the desktop is no "exotic solution," said Peter Hofmann, Linux project manager at the Munich government's data processing center, in a statement. ■ \$3900

■ JOHN BLAIR, IDG NEWS SERVICE

Compiled by Mitch Betts.

Briefly Noted

which reported disappointing first-quarter results (Quicklink 536544), is expected to announce a major restructuring in Europe by the end of June. That will include laying off thousands of employees, closing certain operations in Western Europe and moving some operations to Eastern Europe, according to sources familiar with the plan. IBM officials declined to discuss details of the expected restructuring. ■ ALURA ROYHOE, IDG NEWS SERVICE

, based in London, earlier this month announced that it won a \$170 million contract (\$226 million U.S.) to manage desktop computing support for more than 70,000 employees at U.K. banking company Lloyds TSB Group PLC. Under the five-year deal, the bank will transfer 300 IT staffers to Fujitsu.

said that it plans to invest \$50 million in a business process outsourcing center in Wroclaw, Poland. The center will open this week. ■ SCARLETT PRUITT, IDG NEWS SERVICE

processor until early 2006. However, Dell executives noted that adopting AMD as a supplier would increase the computer maker's operating costs because it would need to set up new development and testing teams. Using Opteron also could affect the pricing deals that Dell gets from Intel

in return for its fidelity. "If Dell were to offer [Opteron systems], that'd be great," said Chris Ruffieux, vice president of technology at Gannett Media Technologies International in Norfolk, Va. "But if it's going to cause the prices of other things I'm buying from Dell to go up, I'd rather have it stay the same."

Dell and Altiumware Corp. last week began shipping PCs with Intel's first dual-core processor, the Pentium Extreme Edition 840. The fact that both AMD and Intel launched their initial dual-core products in the same week "is pretty amusing," said Kevin Knewell, editor in chief of Microprocessor Report in San Jose. "They're fighting tooth and nail." ■ \$5954

Kraatz writes for the IDG News Service.

Pairing Up

- IBM said it will use the new Opteron devices in its eServer 320 system and its IntelliStation A-Pro workstation.
- HP introduced a blade server and a version of its ProLiant DL585 system based on the dual-core chips.
- Sun announced support for the dual-core CPUs across its entire line of Opteron-based machines.

**GLOBAL****Amazon, U.K. Retailer
Cut E-commerce Deal**

AMAZON SERVICES EUROPE SARL, Amazon.com Inc.'s new European IT services unit in Luxembourg, last week announced that it will provide e-commerce technology and hosting services to London-based Marks and Spencer PLC, one of the U.K.'s largest retailers.

Amazon.com provides similar services in the U.S. to retail Web sites such as Target.com, Toysrus.com and Borders.com. Amazon Services Europe will provide the technology behind the Marks and Spencer Web site as well as its in-store, telephone and customer service systems. Financial terms of the deal weren't disclosed.

Marks and Spencer's existing Web site gets more than 24 million visits per year, "but our e-commerce and customer ordering capabilities have yet to reach their full potential," Steven Sharp, the retailer's director of marketing and e-commerce, said in a statement. The first phase of the contract

with Amazon is expected to produce an integrated ordering service by mid-2000 for in-store, online and telephone channels, the two companies said.

**Wi-Fi Hot Spot Placed
Near the North Pole**

TWO EMPLOYEES from Intel Corp.'s Moscow office have installed what may be the world's most northerly Wi-Fi hot spot, 130 kilometers from the North Pole, the company announced on April 14. The hot spot was deployed in the Arctic region's Barrow camp, a temporary tent complex for scientists and expeditions that's located on a drifting block of ice at the 97th parallel north.

The Intel employees put an 802.11b/g access point inside the camp's headquarters and set up a wireless LAN using four laptops equipped with the company's Centrino mobile technology. One of the laptops was placed outside and connected to a satellite phone to provide Internet access.

GLOBAL FACT**Opteron Goes Dual-Core,
But Dell Still Isn't Buying**

BY TOM KRAZY

Advanced Micro Devices Inc. last week again beat Intel Corp. to market with cutting-edge technology, announcing two series of Opteron CPUs with a pair of processing cores on a single chip. But while Hewlett-Packard Co., IBM and Sun Microsystems Inc. said they plan to use the dual-core devices in servers, Dell Inc. remains an Opteron holdout.

During a meeting with financial analysts in Austin earlier this month, Dell executives reiterated that the company plans to remain an Intel-only vendor, at least for now.

Dell flirted with AMD last year, as Intel foundered with manufacturing missteps and

product road map detours. But Intel has stabilized its chip development plans since last November, according to analysts, and Dell has eased back on its AMD-friendly rhetoric.

Jeff Clarke, senior vice president in charge of Dell's enterprise products, said in an interview with *Computerworld* in February that the company was standing by Intel on processors (QuickLink 52665). At the analyst meeting this month, Clarke noted that Dell had seen only "marginal increases" in demand for AMD's chips from customers.

University of Buffalo professor Russ Miller, who runs the school's Center for Computing Research, cited problems with

the bus architecture design for Intel's upcoming dual-core Xeon processors as one reason why Opteron is an alluring option for high-performance computing users as well as some business customers. The Intel chips will share a bus connection to the memory in servers, which could affect performance on applications that require fast shuffling of data to and from memory.

Miller said that in conversations with Chairman Michael Dell and other Dell executives, he has expressed his satisfaction with the company's engineering and sales teams. But he also told them of his desire for an Opteron-based server from Dell. "We don't see an option from Dell," Miller said. "But we know this is important to our industry."

Intel isn't expected to release its dual-core Xeon

The equipment survived the cold — the air temperature at the camp rarely rises above -30 degrees Celsius — and worked reliably, according to Intel installer Vsevolod Semenov. The main problems were short battery life and what Semenov described as "back-seat drivers."

■ SCARLETT PRUITT, IDG NEWS SERVICE

**Munich Taps Debian
Linux for Desktops**

OSSELDFORD, GERMANY

THE CITY OF MUNICH announced on April 15 that it will use the free Debian distribution of Linux instead of a commercial version for its move from Windows NT to the open-source operating system on 14,000 desktop PCs.

The municipality selected Softonic AG and Gonicus GmbH, two German IT services firms that submitted a joint bid, to install and support the Debian software. The so-called LiMux project is expected to be completed by the end of 2008.

There was a high level of participation in the bid process, which showed that Linux on the desktop is no "exotic solution," said Peter Hofmann, LiMux project manager at the Munich government's data processing center, in a statement. ■ 53900

■ JOHN BLAU, IDG NEWS SERVICE

Compiled by Mitch Betts

Briefly Noted

IBM, which reported disappointing first-quarter results (QuickLink 52684), is expected to announce a major restructuring in Europe by the end of June. That will include laying off thousands of employees, closing certain operations in Western Europe and moving some operations to Eastern Europe, according to sources familiar with the plan. IBM officials declined to discuss details of the expected restructuring.

■ LAURA ROCHE, IDG NEWS SERVICE

Fujitsu Services Ltd., based in London, earlier this month announced that it won a \$770 million contract (\$220 million U.S.) to manage desktop computing support for more than 70,000 employees at U.K. banking company Lloyds TSB Group PLC. Under the five-year deal, the bank will transfer 300 IT staffers to Fujitsu.

Hewlett-Packard Co. said that it plans to invest \$50 million in a business process outsourcing center in Wroclaw, Poland. The center will open this week.

■ SCARLETT PRUITT, IDG NEWS SERVICE


processor until early 2006. However, Dell executives noted that adopting AMD as a supplier would increase the computer maker's operating costs because it would need to set up new development and testing teams. Using Opteron also could affect the pricing deals that Dell gets from Intel

in return for its fidelity.

"If Dell were to offer [Opteron systems], that'd be great," said Chris Ruffieux, vice president of technology at Gannett Media Technologies International in Norfolk, Va. "But if it's going to cause the prices of other things I'm buying from Dell to go up, I'd rather have it stay the same." Dell and Alienware Corp. last week began shipping PCs with Intel's first dual-core processor, the Pentium Extreme Edition 840. The fact that both AMD and Intel launched their initial dual-core products in the same week "is pretty amusing," said Kevin Krewell, editor in chief of *Microprocessor Report* in San Jose. "They're fighting tooth and nail." ■ 53954

Kraus writes for the IDG News Service.

Pairing Up



Stranded DB2 Supported

DB2 WON'T ABANDON YOU.

Perhaps you've heard: Oracle desupported Oracle Database 11i last year. Meaning potential headaches, higher cost or a complete migration to current versions of Oracle. Fortunately, IBM offers ongoing, around-the-clock service and support for DB2.

But that's not all. A Soltaire study has found that, on average, Oracle Database requires 25% more time to manage than DB2.¹ That's big.

And an ITG study showed overall costs for Oracle Database up to four times higher than DB2.² The Transaction Processing Performance Council results show that DB2 and eServer[®] p5-595 are more than twice as scalable as Oracle Real Application Clusters, making them the overwhelming performance and scalability leader for TPC-C.³ That's big, too.

No wonder DB2 is regarded as the leading database built on and optimized for Linux,⁴ UNIX⁵ and Windows.⁶ Like other IBM database engine products such as Informix[®] and Cloudscape,⁷ DB2 is part of an innovative family of information management middleware that integrates, and can actually add insight to your data.

It's also built to take full advantage of your existing heterogeneous and open environments, and is built to enable true grid computing.

Why not move up to middleware that makes sense? Now you can get IBM DB2 Universal Database or Informix by taking advantage of our extremely compelling trade-up program. Visit ibm.com/db2/swap today to find out if you qualify.



ON DEMAND BUSINESS

IBM, the IBM logo, DB2, eServer, Informix, Cloudscape and the On Demand logo are trademarks or registered trademarks of International Business Machines Corporation in the United States and other countries. Linux is a registered trademark of Linus Torvalds. Microsoft and Windows are registered trademarks of Microsoft Corporation in the United States and/or other countries. UNIX is a registered trademark of The Open Group in the United States and/or other countries. Other company product and service names may be trademarks or service marks of others. © 2004 IBM Corporation. All rights reserved. ¹DB2 Performance vs. Oracle Server[®] pSeries and eSeries, Soltaire International Ltd., 2003. Based on Oracle Database 11i. ²IBM Solutions for Proprietary Deployment in Mid-sized Businesses Quantifying the New Cost/Benefit's picture. July 2003. International Technology Group, Los Altos, California. All referenced results are current as of 10/1/03. DB2 UDB v8.2 on IBM eServer p5-595 64-way POWER5-1.9 GHz and AIX 5.3L, 3,210,540 IOPS @ \$0.16/OPC available May 15, 2004. vs. Oracle RAC 10g on HP Integrity DL570 Cluster 64P 16 x 4-way HP-Itanium2 800 1.50GHz, 1,184,893 IOPS @ \$0.10/OPC available April 30, 2004. TPC-C 1000C available April 30, 2004. TPC-C 1000C are trademarks of The Transaction Processing Performance Council. For further TPC-related information, please see <http://www.tpc.org/>

Continued from page 1

Credit Cards

transaction levels. Banks that issue credit cards will be responsible for ensuring that companies comply with PCI and could face up to \$500,000 in fines per incident if data is compromised.

The PCI standard aligns and builds on the separate security requirements that both MasterCard and Visa had prior to December 2004, said John Verdechi, MasterCard's vice president of e-business and emerging technologies. It is designed to offer a common approach for protecting credit card data across both brands, he said.

Other card companies, including American Express Co. and Diners Club International Ltd., have also endorsed the PCI standard, he added.

Complex Requirements

"The good part about the program is that it provides good guidelines and standards of conduct," said Todd Mazurek, vice president of strategic planning at Tickets.com Inc., a Costa Mesa, Calif.-based provider of ticketing services for live events.

But compliance with some of the PCI provisions could be difficult for midsize and small merchants, Mazurek warned. One example is the requirement that merchants record and keep track of all activity involving access to information about cardholders.

"That's a lot of information that you need to track," Mazurek said. "Doing that in a manner that doesn't impact your responsiveness is some what tricky."

OshKosh B'Gosh Co. is working with the vendor of its point-of-sale software to bring approximately 600 POS systems in 170 stores into compliance with PCI, said Jon Dell'A, Ontario, CIO at the Oshkosh, Wis.-based clothing retailer. "It really involves what data you capture and forward when you scan a credit card in stores," Dell'A Ontario said. The company is also evaluating

what other changes it needs to make to comply fully with the standard, he added.

Jelly Belly Candy Co. is doing a similar evaluation of its Web site operations to see what compliance-related issues it might need to address, said Cary Praeger, a security specialist at the Fairfield, Calif.-based candy maker.

"It's a good thing to have a list of things to check off to see if we are following guidelines," Praeger said. He added that Jelly Belly is using Qualys Inc., its vulnerability assessment service provider, to scan and audit the site. Redwood Shores, Calif.-based Qualys offers a MasterCard-certified testing process that features self-service compliance assessment and reporting.

The PCI requirements re-

The Digital Dozen

WISA AND MASTERCARD'S NEW DATA PROTECTION RULES

BUILD AND MAINTAIN A SECURE NETWORK

Install and maintain a firewall configuration to protect data.

Do not use vendor-supplied defaults for system passwords and other security parameters.

PROTECT CARDHOLDER DATA

Securely store data.

Encrypt transmission of cardholder data and sensitive information across public networks.

MAINTAIN A VULNERABILITY MANAGEMENT PROGRAM

Use and regularly update antivirus software.

Develop and maintain secure systems and applications.

IMPLEMENT STRONG ACCESS-CONTROL MEASURES

Restrict access to data by business need to know.

Assign a unique ID to each person with computer access.

Restrict physical access to data about cardholders.

REGULARLY MONITOR AND TEST NETWORK SECURITY

Track and monitor all access to network resources and cardholder data.

Regularly test security systems and processes.

INFORM EMPLOYEES ABOUT SECURITY POLICIES

Maintain a policy that addresses information security.

Continued from page 1

NYSE

Chicago-based Archipelago, according to officials at the two exchanges.

Steve Rubnow, Archipelago's chief technology officer, said that while the two exchanges will likely learn a lot from each other's vastly different technology infrastructures, their IT departments will remain separate and their systems will run in parallel for the foreseeable future.

The two IT teams will have a close working relationship,



Steve Rubnow will have to juggle electronic and traditional trading

Rubnow said, but he added that "the nature of that working relationship has yet to be spelled out." As for the future of the two trading approaches, "it's really up to what customers want to do," he said. "They'll help us determine what the future of all these systems will look like."

Different Strategies

The separate paths planned by the NYSE and Archipelago contrast with the technology integration strategy that Nasdaq outlined for its proposed acquisition of Instinet Group Inc.'s electronic exchange.

The addition of Instinet's trade-matching engine should make "our technological platform more competitive," Nasdaq CEO Bob Greifeld said. Nasdaq also noted that it expects Instinet's technology to help it realize "significant savings." (For more details about the Nasdaq/Instinet deal, see At Deadline on page 4.)

The NYSE's postmerger IT strategy hews to a plan that it had already put in place for supporting a mix of trading methods. In an interview last December, Roger Burkhardt, the NYSE's CTO, said the exchange planned to adopt a hybrid model that would allow electronic and traditional

floor trading to take place side by side.

Echoing Rubnow's comments, an NYSE spokeswoman said last week that officials there and at Archipelago "are committed to going forward with the hybrid model, and the markets will remain distinct." However, she added that the two exchanges "will be exploring ways to work together."

If the exchanges are kept separate, "a lot of the IT challenges will be minimized," said Bill Cline, a financial industry consultant at Accenture Ltd. But both Cline and Jodi Burns, an analyst at Celent Communications LLC



"It's really up to what the customers want to do. They'll help us determine what the future of all these systems will look like."

STEVE RUBNOW, CEO, Archipelago Holdings Inc.

in Boston, said it's likely that traders will ultimately determine the fate of the NYSE's open-outcry auction system.

Burns added that she can't see why the combined company would keep the NYSE's two-century-old approach alive for long, because elec-

tronic trades can be processed much more quickly than those done on a trading floor.

Currently, the NYSE electronically matches only about 10% of its trades, according to Larry Tabb, an analyst at The Tabb Group in Westboro, Mass. The NYSE also hasn't been aggressive about adopting technology to automate the trade-matching process, Tabb and other analysts say. For example, trade orders are still manually key-punched into the exchange's clearing and settlement system.

Tabb said the planned merger would provide the NYSE with access to "very good front-end technology" for tasks such as managing the flow of trade orders and accepting different types of orders. But, he noted, "developing the capability for floor brokers and specialists to interact with an electronic flow will take time — time to develop and time to adapt." **■ S3932**

Continued from page 1

Credit Cards

transaction fees. Banks that issue credit cards will be responsible for ensuring that companies comply with PCI and could face up to \$500,000 in fines per incident if data is compromised.

The PCI standard aligns and builds on the separate security requirements that both MasterCard and Visa had prior to December 2004, said John Verdezchi, MasterCard's vice president of e-business and emerging technologies. It's designed to offer a common approach for protecting credit card data across both brands, he said.

Other card companies, including American Express Co. and Diners Club International Ltd., have also endorsed the PCI standard, he added.

Complex Requirements

"The good part about the program is that it provides good guidelines and standards of conduct," said Todd Mazurek, vice president of strategic planning at Tickets.com Inc., a Costa Mesa, Calif.-based provider of ticketing services for live events.

But complying with some of the PCI provisions could be difficult for midsize and small merchants, Mazurek warned. One example is the requirement that merchants record and keep track of all activity involving access to information about cardholders.

"That's a lot of information that you need to track," Mazurek said. "Doing that in a manner that doesn't impact your responsiveness is somewhat tricky."

Oshkosh B'Gosh Co. is working with the vendor of its point-of-sale software to bring approximately 600 POS systems in 170 stores into compliance with PCI, said Jon Dell'Antonio, CIO at the Oshkosh, Wis.-based clothing retailer.

"It really involves what data you capture and forward when you scan a credit card in stores," Dell'Antonio said. The company is also evaluating

what other changes it needs to make to comply fully with the standard, he added.

Jelly Belly Candy Co. is doing a similar evaluation of its Web site operations to see what compliance-related issues it might need to address, said Gary Praegitzer, a security specialist at the Fairfield, Calif.-based candy maker.

"It's a good thing to have a list of things to check off to see if we are following guidelines," Praegitzer said. He added that Jelly Belly is using Qualys Inc.'s vulnerability assessment service provider, to scan and audit the site. Redwood Shores, Calif.-based Certify offers a MasterCard-certified testing process that features self-service compliance assessment and reporting.

The PCI requirements re-

Continued from page 1

NYSE

Chicago-based Archipelago, according to officials at the two exchanges.

Steve Rubinow, Archipelago's chief technology officer, said that while the two exchanges will likely learn a lot from each other's vastly different technology infrastructures, their IT departments will remain separate and their systems will run in parallel for the foreseeable future.

The two IT teams will have a close working relationship,

Rubinow said, but he added that "the nature of that working relationship has yet to be spelled out." As for the future of the two trading approaches, "it's really up to what customers want to do," he said. "They'll help us determine what the future of all these systems will look like."

Different Strategies

The separate paths planned by the NYSE and Archipelago contrast with the technology integration strategy that Nasdaq outlined for its proposed acquisition of Instinet Group Inc.'s electronic exchange.

"The addition of Instinet's trade-matching engine should make 'our technological platform more competitive,'" Nasdaq CEO Bob Greifeld said. Nasdaq also noted that it expects Instinet's technology to help it realize "significant savings." (For more details about the Nasdaq/Instinet deal, see At Deadline on page 4.)

The NYSE's postmerger IT strategy hews to a plan that it had already put in place for supporting a mix of trading methods. In an interview last December, Roger Burkhardt,

the NYSE's CTO, said the exchange planned to adopt a hybrid model that would allow electronic and traditional

floor trading to take place side by side.

Echoing Rubinow's comments, an NYSE spokeswoman said last week that officials there and at Archipelago "are committed to going forward with the hybrid model, and the markets will remain distinct." However, she added that the two exchanges "will be exploring ways to work together."

If the exchanges are kept separate, "a lot of the IT challenges would be minimized," said Bill Cline, a financial industry consultant at Accenture Ltd. But both Cline and Jodi Burns, an analyst at Celent Communications LLC in Boston, said it's likely that traders will ultimately determine the fate of the NYSE's open-outcry auction system.

Burns added that she can't see why the combined company would keep the NYSE's two-century-old approach alive for long, because elec-

tronic trades can be processed much more quickly than those done on a trading floor. Currently, the NYSE electronically matches only about 10% of its trades, according to Larry Tabb, an analyst at The

Tabb Group in Westboro, Mass. The NYSE also hasn't been aggressive about adopting technology to automate the trade-matching process, Tabb and other analysts said. For example, trade orders are still manually key-punched into the exchange's clearing and settlement systems.

Tabb said the planned merger would provide the NYSE with access to "very good front-end technology" for tasks

such as managing the flow of trade orders and accepting different types of orders. But, he noted, "developing the capability for floor brokers and specialists to interact with an electronic flow will take time — time to develop and time to adapt." ■ E3943

The Digital Dozen



"It's really up to what the customers want to do. They'll help us determine what the future of all these systems will look like."

STEVE RUBINOW,
CTO, Archipelago
Holdings Inc.

such as managing the flow of trade orders and accepting different types of orders. But, he noted, "developing the capability for floor brokers and specialists to interact with an electronic flow will take time — time to develop and time to adapt." ■ E3943

Introducing data centers on demand

New architecture supports power densities of today... and tomorrow



Hot aisle Cooling Tiles/Cable trough



APC's innovative hot aisle cooling tiles/cable trough are designed to handle the demanding cabinet-level physical infrastructure requirements of high-density blade server applications.

Chamber Doors
Access to hot aisle
locks for security

Now you can quickly deploy a standard- or high-density site of **any size** with scalable, top-tier availability.

Part Number	Usable IT Racks	Average kW per Rack	Price to buy	Price to lease (36 installations)
ISXCR15Y16K10P5	1	up to 5kW	\$14,999*	\$499**
ISXT240MDR	6	up to 5kW	\$149,999*	\$4,999**
ISXT240MD11R	11	up to 5kW	\$249,999*	\$7,999**
ISXT280MD40R	40	up to 5kW	\$699,999*	\$21,999**
ISXT280MD100R	100	up to 5kW	\$1,649,999*	\$50,999**

High Density Configuration (shown above)

ISXT280MDR	8	up to 10kW	\$399,999*	\$12,999**
------------	---	------------	------------	------------

High density upgrades start at \$10,999

On-site power generation options start at \$29,999

All multi-rack configurations feature:

- ✓ N+1 power and cooling
- ✓ Secure, self-contained environment
- ✓ Peak capacity of 20kW per rack
- ✓ Enhanced service package
- ✓ Integrated management software



InfraStruXure Manager

What is
data center
on demand?

InfraStruXure

DATA CENTERS ON DEMAND

Highly available and manageable, quick-to-install, scalable architecture that easily supports both standard- and high-density applications

- Up to 20kW a rack for any blade server application
- Unrivaled racks
- Ships in 5 days***
- Install in 1 day***
- Optional on-site power generation
- Raised floor not required
- Vendor neutral guaranteed compatibility



InfraStruXure™ can be purchased as a modular or mobile system

APC
Legendary Reliability®

Order your solution today. Call 888-289-APCC x3388.

Visit today and receive FREE APC White Papers

Visit us online and download APC White Papers



Don't see the configuration you need?

Try APC's online InfraStruXure BuildOut Tool today and build your own solution.

Go to <http://promo.apc.com> and enter key code a441x Call 888-289-APCC x3388

* Prices do not include IT equipment and are subject to change. ** Individual rates are subject to market conditions. *** Local and delivery times may vary.

3rd Annual
COMPUTERWORLD



MOBILE & WIRELESS WORLD

Got an award-worthy
mobile and wireless
project?

Submit it for consideration
by May 11/06

**Best Practices
in MOBILE & WIRELESS**

Visit www.cwusa.com/Post

2006 Awards Program
sponsored by **intel.**

Learn Proven, Top-Down Strategies to Achieve Enterprise Mobile and Wireless Success

June 13-15, 2006 • The Westin Kierland Resort • Scottsdale, Arizona

Featured speakers include:



ANDRES CARVALLO
CIO
Austin Energy



PHIROZE DARUKHANAVALA
CTO
British Petroleum



RON FIALKOWSKI
CIO
Strategic Distribution Incorporated



ERNEST PARK
CIO
Maytag



JOHN WADE
COO
Saint Luke's Hospital



DALE FRANTZ
CIO
Auto Warehousing

The Leading Conference for:

- IT Management
- Mobile/Wireless Technology Architects and Implementers
- Mobile-Intensive Application Implementers
- Wireless LAN/Wi-Fi/Network Professionals

Topic Areas Include:

- Top-down Planning for Enterprise Wireless Infrastructures
- Building and Defending the Business Case
- Adapting Desktop Applications to Handhelds
- Using Broadband Wireless ISPs
- RFID
- Cellular Mobile Data and Carrier Management
- WLANs and Security

To register or for more information,
visit www.cwusa.com/cw

Mobile & Wireless World 2006 sponsors include:

As of 4/21/06

PLATINUM SPONSORS



intel.

NOKIA
CONNECTING PEOPLE

OFFICIAL BRIFCASE SPONSOR

The first 300
IT end-user
registrants who
attend will receive
a Targus bag!



MEDIA SPONSORS

FORBES

WIRELESS

WIRELESS

WIRELESS

WIRELESS

WIRELESS

For conference sponsorship opportunities, call John Amato at 1-508-820-8279

Microsoft Aims to Boost Deployment, Availability

Longhorn OS will also support role-based servers, Allchin says

BY CAROL SILVER AND
ROBERT L. MITCHELL
BOSTON

Microsoft Corp. plans to hand out a preview copy of its next major Windows release, code-named Longhorn, at the Windows Hardware Engineering Conference this week in Seattle. In addition, it's expected to release 64-bit editions of Windows XP and Windows Server 2003. Jim Allchin, group vice president of platforms at Microsoft, spoke with Computerworld earlier this month about Longhorn and the potential benefits of 64-bit computing. Excerpts follow:

What new features in Longhorn are tailored for IT shops? In business, we want to be able to manage the [system] images that people are creating for deployment. Today, it's very complicated for them. They have to build images for different locales around the world because of different languages. They have to build images that are different depending on the type of hardware that they're deploying [Windows] to. All those add cost. We're trying to do a re-engineer of that to make that much simpler.

Another example: We're going to drop the number of reboots. We'll do ad hoc patching. There's a whole set of things we're doing to try to keep the system to where availability is higher.

Do you have a goal for continuous uptime? We do, but I'm not going to quote it.

How will role-based computing work in the server version of Longhorn? Our focus is to take the "experience thinking" [about what users do with systems] and tie it to roles that the server is in: "This is a Web server." [This is a messaging system.] "This is an [Active Directory] certificate system." You check that role, and everything you need for that role is there. You don't have to think. It's like a Swiss Army Knife, only instead of having the rest of the blades there, which might get in your way, you basically say, "I want this blade," and the rest of the blades fall away.

So it means stripping away everything that's superfluous and getting back to some

sort of Windows core plus a set of dedicated features? Once you decide that that's what this server is, then that's what runs in that box. We did it a little bit in [Windows] 2000, more in [Windows Server] 2003, and we're just taking it to the next step here.

Which features coming in Longhorn do you think will help most as you compete against Linux? We're working on partitioning. That [provides] the ability to add processors and add memory while the system is running. There's a whole set of availability [features] — the ability for fewer reboots. Componentization, I think, will be appreciated as well — and the role-based approach.

What new capabilities will users gain with 64-bit computing? The 64-bit world is very significant for a number of reasons, most of which people don't understand, in my view.

First, x64 supports 128 gigabytes of RAM and 16 terabytes of virtual address [space]. What this means is you could actually apply a significant amount of memory to one of these machines, and you could keep everything that you're dealing with in memory. You can search and tie pieces of information together in such a simple way because you can just use brute-force approaches.

Another advantage that I see deals with security, in that 64-bit has "no execute" on by default. That means you have an additional level of security — not perfection, but an additional level of security for marking data segments as not being able to run code. So it means certain attacks to the [operating system] stack aren't possible. We tried to do this a little bit with [Windows XP] SP2 for the 32-bit world, but it doesn't work anywhere near as easily as in the 64-bit world.

Will 32-bit applications experience a boost in performance running on 64-bit Windows? We've done a bunch of tests. What you will see typically is a little

bit of performance gain.

Perhaps 5% to 10%? Yeah. It's small. It dramatically depends on how much

[the applications] call the OS. The more they call the OS, the more gain they'll get.

Will there be separate 32- and 64-bit versions of Longhorn? We'll have both. **Q 53821**

Overheated? Plug In The Simple Solution.

MovinCool spot air conditioners are the answer to your overheating problems. Just roll it in, Plug it in. Turn it on. It's that simple.

- ▶ Up to 80,000 Btu/h of cooling power right where and when you need it
- ▶ Protects against data loss and equipment failure
- ▶ #1 in portable air conditioning for over 30 years
- ▶ The only portable air conditioner ETL-verified for performance



READ MORE ONLINE

Go to our Web site for an expanded version of the interview with Jim Allchin.
QuickLink 53802

Microsoft provides an early look at Longhorn's new file management and search capabilities.
QuickLink 53842
www.computerworld.com

MOVINCool.

THE #1 PORTABLE SPOT COOLING SOLUTION
800-254-9573 or visit www.movincool.com

©2005 Whetstone Sales Corporation, Inc. ModelCool, SpotCool and Office Pro are registered trademarks of MOVINCool Corporation.



DON TENNANT

'Trivial' Pursuit

HERE'S A PIECE OF IT TRIVIA for you. One day back in the mid-'90s, I asked Bill Gates this question: "If you could have one other software vendor's technology dropped in your lap free of charge tomorrow, with no worries about Justice

Department investigations, what would you pick?" What do you suppose he said?

Well, Gates being Gates, he dismissed any technology-related attraction to anyone else's software. He picked IBM's MVS for the bucks. "They have an installed base of 25,000 that's growing zero units a year, and they make \$6 billion a year," Gates said. "So the most profitable software franchise ever is what IBM has done there." Hey, he's nothing if not a businessman.

My comeback was that I would have guessed he'd choose some sort of Internet-related software. Remember, this was back when Microsoft was seen as being very late to the Internet game, and that pesky Netscape upstart was giving it fits.

"I wouldn't say that," Gates responded with characteristic, if feigned, nonchalance. "Because an Internet browser is a trivial piece of software."

I didn't realize it at the time, but that "trivial piece of software" line would become the most frequently quoted comment from any interview I've ever done. I've seen it cited, even years later, in books, newspapers, research papers and essays.

I did know then that it was a controversial statement. So being the troublemaker I am, when I hooked up with Netscape co-founder and then-chairman Jim Clark a couple of months after that chat with Gates, the first thing I did was tell him what Gates had said about browsers.



Clark's response was priceless. "MS-DOS is a trivial piece of software," he fumed. "Why was he successful? Because he wrote some beautiful piece of software? That's totally ridiculous. He didn't even write the damn thing. He licensed it. At least we've got the guys who originally wrote ours." Calm down, Jim.

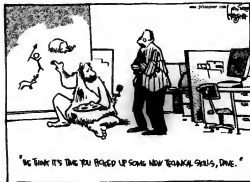
Fast-forward 10 years to the present, when we can all agree that browsers are anything but trivial. Looking back, it's clear that Gates' statement was even goofier than it was controversial. If the browser was so trivial, why would Gates subsequently claim through years of antitrust litigation that it was technically too complicated to unbundle it from the operating system? And if it was so easy to make

one that works well, why have Microsoft and the millions of us who use Internet Explorer suffered so much pain from the security flaws that have riddled IE?

No, it's hardly easy. That's why, ironically enough, Microsoft has such a chokehold with IE. Netscape found it too difficult to make its browser sufficiently compelling to prevent its marginalization to near oblivion. According to the Web monitoring outfit Net Applications, as of February Netscape held a pathetic 1.89% share of the browser market.

And now there's Firefox, the open-source offering from the Mozilla Foundation that in a few short months has grabbed an impressive 6.17% share of the market, according to Net Applications. The surge has pushed IE's share down under 90%. Just one glitch. Well, make that a lot of glitches: On April 15 Mozilla announced a third round of fixes for Firefox security flaws, this time patching eight critical holes [Quick-Link 53859]. Not a trivial number. At this rate, Gates' nonchalance won't need to be feigned. © 1995

Don Tennant



VIRGINIA ROBBINS

The IT Funding Dilemma

"NOT ENOUGH," moaned one of my direct reports. I was a bit surprised by his answer when I asked what his most pressing issue was.

I had expected him to name one of the many large projects that he was managing. But no, none was at risk; the thing for him was that the list of potential projects seemed infinite. I understood. Our triple-digit growth meant that our bright, aggressive managers, cost-driven operations managers and ever-diligent compliance officers were all thinking up new ideas daily.

The primary cause of the never-ending lists problem used to be a poor IT governance process. But we

launched a new program a year ago, and since then, my employee's team has contributed many improvements. Today, the business owners speak highly of the transparency of the process and believe that projects are getting selected and worked on in the right order. Still, they all would like to have more projects done.

So would I. But to do so would require more funding.

What if we did have more people who were completely trained and as good as or better than the current staff? Would that be enough? Probably not. IT funding is like your salary. No matter what level it's at, it's always going to take another 20% to make you completely satisfied, and I know of no truly satisfied successful CIO.

I've experienced what can happen when an IT department's funding keeps expanding. A company I worked at, believing that its products were truly different, required that its software be customized. The costs to support the heavily customized code grew each year until IT became one of the largest departments. Eventually, the company was unable to keep pace with its compliance requirements. Once profits be-



gan to decline and operations were questioned by regulatory agencies, the board brought in a new CEO, who fixed the problems by outsourcing 85% of IT.

The challenge is finding the sweet spot where IT is spending enough to fund the most meaningful projects but not so much as to create problems for the company. I depend upon average industry ratios of IT expenses to total company expenses. If we're roughly in line with others within our industry, then all things being equal, our profits should be roughly the same as those of our competitors. Usually measured as a percentage of total expenses, the range of these ratios is typically from 3% to 20%.

These are guidelines, however. How dollars are to be allocated to IT is best determined by considering business alignment and IT governance. I've worked in two industries with very high ratios. The percentages I have had to work with have ranged from 12% to 35%. The final amount for my IT department has been a compromise that considers the company's financial goals, marketing and sales goals, regulatory needs and short-term limitations within IT.

Once again, it comes back to good governance. As for my employee, I like to remember to tell him that while it may seem frustrating at times, the work that he's doing within our agreed IT governance is enabling him to be a strategic gatekeeper for the company. He's done a terrific job in improving his team's efficiency in that our expenses dropped 1% last year.

The list of projects may seem long, but right now he's doing an incredibly important job in ensuring that the company's capital is spent on the right IT projects at the right time. **■** **53041**

DAVID MOSCHELLA

HP Has to Relearn How To Be HP

IN THE EARLY 1980s, when the PC emerged and computer hardware began its long transition toward commodity status, there were three great U.S. computer technology companies: IBM, Digital and Hewlett-Packard. While we all know now that the power of microprocessor-based systems changed computing forever, to appreciate the challenges that HP currently faces, it's worth revisiting how each of those

companies responded to the changes that roiled the industry.

Over the past 20 years, IBM has essentially moved up the technology stack, exiting numerous hardware businesses, including printers, commodity semiconductor and, most recently, laptop PCs. It has used its immense mainframe base to develop a powerful services and software position. It's no longer the technology force it once was, but it has a clear strategic focus, supporting large and midsize companies.

In contrast, Digital had neither the services position of IBM nor the ability to compete in the cost-driven PC business, and thus it never really had anywhere safe to go. When it both underestimated and mismanaged the growing Unix server business, its fate was sealed. Who would have thought that it would soon be acquired by a PC company (Compaq) and then vanish into HP, a rival it dwarfed in the once-prud minicomputer industry?

In comparison, HP has been a bastion of stability. There have been no great strategic shifts, because HP never



IBM or Digital never could.

Thus, while IBM has succeeded in services, and Digital could have succeeded in the midrange (as Sun Microsystems eventually did), HP has always been primarily a device company. It once seriously considered buying the consulting business of PricewaterhouseCoopers (subsequently bought by IBM), which would have required a radical and almost unimaginable shift in culture. However, acquiring Compaq, while certainly risky and perhaps unwise, was well within the company's traditional strategic orbit.

The Compaq acquisition was a defining moment because it meant that

there could be no turning back and that HP would have to be successful in PCs and low-end servers or face a calamitous future. While HP can still consider moves such as buying Sun or Novell to expand its enterprise position, it can't just move up the stack the way IBM did, and it can't afford to mislay its core business the way Digital did.

So if I were HP's new CEO, Mark Hurd, I would be asking questions such as these: Is Dell, with its clunky, unimaginative bones and declining service levels, really so good that we can't compete? Why is so much design and product innovation happening down the road at Apple Computer and so little at HP? How come, after all these years, not a single major PC vendor has really tried to advance the Linux PC concept? Why aren't we much stronger in the image editing and management business?

Only by reinvigorating its core product technology focus can the company rediscover its dynamism and avoid the painful breakup it's currently headed toward. **■** **53029**

WANT OUR OPINION?

More columns and links to archives of previous columns are on our Web site www.computerworld.com/columns

READERS' LETTERS

Gun Comments Sidetrack Readers

IVE HAD SIMILAR problems with Lane Roney's articles as C.J. Kelly described in her Security Manager's Journal ("It's No Silver Away With Lane Roney's," QuickLink 52862). The best thing to do with employees who pull those kinds of tricks is to rip-link 'em. With any luck, your competitors will hear them.

I was saddened to see that Kelly used the article to express antiquated sentiments. As a permit-carrying, law-abiding techie, I encourage her to call legitimate gun owners some slack. That employee would still be a jerk, and so are others.

John Burson
Informaticist,
Bloomington, Ind.

KELLY'S IMPLICATION that law-abiding gun owners are less than legitimate is a disservice to the real areas that I was brought up in, hunting and fishing are integral parts of life. Every other pickup truck has a

rifle or shotgun, as rare as they have a toolbox. Most of my relatives and a good portion of my friends own and occasionally carry guns, and none has ever shot another human being except in the service of their country. Yes, there are plenty of bad characters out there whose only use of a firearm is for violence against other people. Legitimate owners of guns despise them. The number of crimes committed by these licensed to carry concealed weapons is a fraction of the total. If you are looking for a law-abiding citizen, look at the person with the concealed permit who has had extensive training and background checks to obtain that status. But please, don't spread misinformation that is insulting to so many honest folks.

David Ball
Manager of product development,
Ellisabeth, Ky.
hunting@yaho.com

C.J. KELLY RESPONDS: Guns

weren't the issue. Lots of people in my family have them. The issue, which unfortunately didn't make clear enough, was that this gun owners on this situation seemed to boast about possessing guns in relation to trying to requiring them to do their work differently I felt threatened.

Funding E-health

FRANK HAYES' COLUMN "E-health, Staff" (QuickLink 52832) correctly points out that many medical providers still use paper charts. He suggests that the solution is to have Medicare force them to convert to an all-electronic format (the electronic health record, or EHR), implying that most providers don't want to convert to or use a standard format. Setting aside the problem of the non-existence of a standard EHR, the difficulty is that the goals of the players aren't aligned. No one disagrees on the benefits of an EHR, not on who should pay for the process of conversion, Medicare, Medicaid and

insurance companies take the long-term perspective necessary to fund the conversion. Employers and employer groups have a more appropriate perspective, but they don't pay more to hospitals with EHRs. Most hospital systems don't have the funds to support a massive conversion, although some areas are being converted on an opportunistic basis. It's easy for Hayes to suggest a mandate, but I'd like to know who will fund it.

David B. Fitzgerald, M.D., MBA
Gainesville, Fla.

COMPUTERWORLD welcomes comments from its readers. Letters will be edited for brevity and clarity. They should be addressed to: James Eckle, letters editor, Computerworld, PO Box 9711, 1 Spaten Street, Framingham, Mass. 01701. Fax: (508) 679-4645. E-mail: letters@computerworld.com. Please include an address and phone number for immediate verification.

For more letters and other topics, go to www.computerworld.com/letters

'Trivial' Pursuit

HERE'S A PIECE OF IT TRIVIA for you. One day back in the mid-'90s, I asked Bill Gates this question: "If you could have one other software vendor's technology dropped in your lap free of charge tomorrow, with no worries about Justice

Department investigations, what would you pick?" What do you suppose he said?

Well, Gates being Gates, he dismissed any technology-related attraction to anyone else's software. He picked IBM's MVS for the bucks. "They have an installed base of 25,000 that's growing zero units a year, and they make \$6 billion a year,"

Gates said. "So the most profitable software franchise ever is what IBM has done there." Hey, he's nothing if not a businessman.

My comeback was that I would have guessed he'd choose some sort of Internet-related software. Remember, this was back when Microsoft was seen as being very late to the Internet game, and that pesky Netscape upstart was giving it fits.

"I wouldn't say that," Gates responded with characteristic, if feigned, nonchalance. "Because an Internet browser is a trivial piece of software."

I didn't realize it at the time, but that "trivial piece of software" line would become the most frequently quoted comment from any interview I've ever done. I've seen it cited, even years later, in books, newspapers, research papers and essays.

I did know then that it was a controversial statement. So being the troublemaker I am, when I hooked up with Netscape co-founder and then-chairman Jim Clark a couple of months after that chat with Gates, the first thing I did was tell him what Gates had said about browsers.



Clark's response was priceless. "MS-DOS is a trivial piece of software," he fumed. "Why was he successful? Because he wrote some beautiful piece of software? That's totally ridiculous. He didn't even write the damn thing. He licensed it. At least we've got the guys who originally wrote ours." Calm down, Jim.

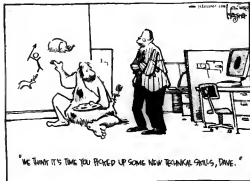
Fast-forward 10 years to the present, when we can all agree that browsers are anything but trivial. Looking back, it's clear that Gates' statement was even goofier than it was controversial. If the browser was so trivial, why would Gates subsequently claim through years of antitrust litigation that it was technically too complicated to unbundle it from the operating system? And if it was so easy to make

one that works well, why have Microsoft and the millions of us who use Internet Explorer suffered so much pain from the security flaws that have riddled IE?

No, it's hardly easy. That's why, ironically enough, Microsoft has such a chokehold with IE. Netscape found it too difficult to make its browser sufficiently compelling to prevent its marginalization to near oblivion. According to the Web monitoring outfit Net Applications, as of February Netscape held a pathetic 1.89% share of the browser market.

And now there's Firefox, the open-source offering from the Mozilla Foundation that in a few short months has grabbed an impressive 6.17% share of the market, according to Net Applications. The surge has pushed IE's share down under 90%. Just one glitch. Well, make that a lot of glitches: On April 15 Mozilla announced a third round of fixes for Firefox security flaws, this time patching eight critical holes [Quick-Link 53859]. Not a trivial number. At this rate, Gates' nonchalance won't need to be feigned. **© 53913**

Don Tennant



The IT Funding Dilemma

"NOT ENOUGH RESOURCES," moaned one of my direct

reports. I was a bit surprised by his answer when I asked what his most pressing issue was.

I had expected him to name one of the many large projects that he was managing. But no, none was at risk; the thing for him was that the list of potential projects seemed infinite. I understood. Our triple-digit growth meant that our bright, aggressive marketers, cost-driven operations managers and ever-diligent compliance officers were all thinking up new ideas daily.

The primary cause of the ever-ending lists problem used to be a poor IT governance process. But we

launched a new program a year ago, and since then, my employee's team has contributed many improvements. Today, the business owners speak highly of the transparency of the process and believe that projects are getting selected and worked on in the right order. Still, they all would like to have more projects done.

So would I. But to do so would require more funding.

What if we had more people who were completely trained and as good as or better than the current staff? Would that be enough? Probably not. IT funding is like your salary. No matter what level it's at, it's always going to take another 20% to make you completely satisfied, and I know of no truly satisfied successful CIO.

I've experienced what can happen when an IT department's funding keeps expanding. A company I worked at, believing that its products were truly different, required that its software be customized. The costs to support the heavily customized code grew each year until IT became one of the largest departments. Eventually, the company was unable to keep pace with its compliance requirements. Once profits be-



William Tennant is CIO and managing director at Calabasas, Pasadena in San Francisco. Contact her at w_tennant@calabasas.com.

gan to decline and operations were questioned by regulatory agencies, the board brought in a new CEO, who fixed the problems by outsourcing IT.

The challenge is finding the sweet spot where IT is spending enough to fund the most meaningful projects but not so much as to create problems for the company. I depend upon average industry ratios of IT expenses to total company expenses. If we're roughly in line with others within our industry, then all things being equal, our profits should be roughly the same as those of our competitors. Usually measured as a percentage of total expenses, the range of these ratios is typically from 3% to 20%.

These are guidelines, however. How dollars are to be allocated to IT is best determined by considering business alignment and IT governance. I've worked in two industries with very high ratios. The percentages I have had to work with have ranged from 12% to 35%. The final amount for my IT department has been a compromise that considers the company's financial goals, marketing and sales goals, regulatory needs and short-term limitations within IT.

Once again, it comes back to good governance. As far as my employer, I need to remember to tell him that while it may seem frustrating at times, the work that he's doing within our agreed IT governance is enabling him to be a strategic gatekeeper for the company. He's done a terrific job in improving his team's efficiency in that our expenses dropped 1% last year. The list of projects may seem long, but right now he's doing an incredibly important job in ensuring that the company's capital is spent on the right IT projects at the right time. **E53841**

DAVID M. HAYES

HP Has to Relearn How To Be HP

IN THE EARLY 1980s, when the PC emerged and computer hardware began its long transition toward commodity status, there were three great U.S. computer technology companies: IBM, Digital and Hewlett-Packard. While we all know now that the power of micro-processor-based systems changed computing forever, to appreciate the challenges that HP currently faces, it's worth revisiting how each of those

companies responded to the changes that rocked the industry.

Over the past 30 years, IBM has eventually moved up the technology stack, exiting numerous hardware businesses, including printers, commodity semiconductor and, most recently, laptop PCs. It has used its immense mainframe base to develop a powerful services and software position. It's no longer the technology force it once was, but it has a clear strategic focus, supporting large and midsize companies.

In contrast, Digital had neither the services position of IBM nor the ability to compete in the cost-driven PC business, and this it never really had anywhere safe to go. When it grew underestimated and employed the wrong under-server business, its fate was sealed. Who would have thought that it would soon be acquired by a PC company (Compaq) and then vanish into HP, a rival it dwarfed in the once-personal computer industry?

In comparison, HP has been a bastion of stability. There have been no great strategic shifts, because HP never



DAVID HAYES is the global research director at the Leading Edge Forum, a Computer Science Corp. consultancy. Contact him at davidh@edgeforum.net.

IBM or Digital never could.

Thus, while IBM has succeeded in services, and Digital could have succeeded in the midrange tax Sun Microsystems eventually did, HP has always been primarily a device company. It once seriously considered buying the consulting business of Procter & Gamble's Copiers (subsequently bought by IBM), which would have required a radical and almost unimaginable shift in culture. However, acquiring Compaq, while certainly risky and perhaps unwise, was within the company's traditional strategic orbit.

The Compaq acquisition was a defining moment because it meant that

there could be no continuing to be a midrange HP would have to succumb to PCs and low-end servers or take a dramatic turn. While HP, as a computer maker, such as when Sun or Novell, it expanded its corporate position and moved up the stack to the IBM did, and it can't afford to employ its core business like was Digital did.

So I warn HP's new CEO Mark Hurd: I would be asking questions, such as these: Is Dell what's taking margins? Does it have a low-cost advantage? Is it really so good that it can't compete? Why is so much design and product innovation happening down the road at Apple? Computer and so on at HP? How come after all these years, not a single major PC vendor has really tried to advance the 10mV PC concept? Why don't we much stronger in the margins, cutting and management business?

Only by reinventing its core product technology focus can the company redress its dysfunction and avoid the painful breakup it currently headed toward. **E 53829**

WANT OUR OPINION?

Write columns and letters for an issue of previous columns are on the Web site: www.computerworld.com/letters

Gun Comments Sidetrack Readers

I **HAVE HAD** SIMILAR problems with Lone Range types as C.J. Kelly described in his *Security Magazine* column "No Silver Away From Guns" (Feb. 28, 2005, E5085). The best thing to do with employees who pull those kinds of tricks is to pink-slip them. With any luck, your competitors will fire them.

I was saddened to see that Kelly used the article to express antigun sentiments. As a permit-carrying law-abiding teacher, I encourage him to ask legitimate gun owners some stuff. That employee would still be a job, armed or otherwise.

John Burgeon
Informatics
Bloomington, Ind.

KELLY'S IMPLICATION that employees who pull those kinds of tricks are violent-prone was so off-base I am aghast. In the rural areas that I've brought up in hunting and plinking are integral parts of life. Every other pickup truck has a

rifle or shotgun, as sure as they have a toolbox. Most of my relatives and a good portion of my friends own and occasionally carry guns, and none has ever shot another. He may be being paid in the service of their country. Yes, there are plenty of bad characters out there whose only use of a firearm is for violence against other people. Legitimate owners of guns dispose them.

The number of crimes committed by those licensed to carry concealed weapons is a fraction of the total. If you are looking for a law-abiding citizen, look at the person with the concealed permit who has had extensive training and background checks to obtain that status. But please, don't spread misinformation that is resulting to so many honest folks.

David Bell
Manager of product development,
iLabsolutions, Ky.
bell@iLabsolutions.com

C.J. KELLY RESPONDS: Guns

weren't the issue. Lots of people in my family have them. The issue which unfortunately didn't make clear enough was that the gun owners in this situation seemed to be about possessing guns in relation to my requiring them to do their work differently. That threatened.

Funding E-health

FRANK HAYES' COLUMN "E-health: Staff" (March 14, 2005, E5293) correctly points out that many medical providers still use paper charts. He suggests that the solution is to have Medicare force them to convert to an all-electronic format (the electronic health record, or EHR), implying that most providers don't want to convert to or use a standard format. Setting aside the problem of the enormous expense of a standard EHR, the difficulty is that the goals of the players aren't aligned. No one disagrees on the benefits of an EHR, just on who should pay for the process of conversion. Medicare, Medicaid and

insurance companies lack the long-term perspective necessary to fund the conversion. Employers and employer groups have a more appropriate perspective, but they don't play more than a supporting role. Most health systems don't have the funds to support a massive conversion, although some areas are being converted on an opportunistic basis. It's easy for Hayes to suggest a mandate, but I'd like to know who will fund it.

David B. Fitzgerald, M.D., MBA
Guernseyville, Fla.

COMPUTERWORLD welcomes comments from its readers. Letters will be edited for brevity and clarity. They should be addressed to: James Eccles, letters editor, Computerworld, PO Box 9970, 1500 Street, Framingham, Mass. 01703. Fax: (508) 879-4843. E-mail: letters@computerworld.com. Include an address and phone number for immediate verification.

For more letters and other topics, go to www.computerworld.com/letters





A workstation with muscle. Built for the road.

**Introducing mobile productivity with horsepower – the
Dell Precision™ M70 Workstation with Intel® Centrino™ Mobile Technology.**

Now you can dramatically increase productivity by quickly powering through your most complex projects. No matter where you are. Create, modify and demo content anywhere. Analyze and research on the go. Plus, you never have to worry with the M70 – a comprehensive set of ISV certifications ensures this notebook can run your application, while a range of security solutions protects your data, as well as your system. And of course, workstation support, should you need it, is just a phone call away. Add in an incredibly attractive price and 256MB OpenGL graphics, and you've got a workstation that packs one powerful punch.

GE 11 WI

Where IP and telecom unite.
Where security is offensive, not defensive.
Where e-commerce is safe commerce.
Where content is mobile and personal.
Where infrastructure is more intelligent.



VeriSign
Where it all comes together

©2003 VeriSign, Inc. All rights reserved. VeriSign, the VeriSign logo, "Where it all comes together" and other trademarks, service marks, and designs are registered or unregistered trademarks of VeriSign and its subsidiaries in the United States and in foreign countries.

SEE VERISIGN.COM

www.verisign.com
Download now: Free white paper on Intelligent Infrastructure Services

 **VeriSign**

Ghosts in the Machine

Virtual machines are being used by an increasing number of companies because they give users new capabilities to manage computing resources. **Page 26**



FUTURE WATCH

Staying Out in Front

At HP Labs, the work of researchers such as Beth Keer (left) runs the gamut from data center management tools to an architecture for the world's tiniest computer. **Page 32**

SECURITY MANAGER'S JOURNAL

Firewall Request Gets Third Degree

Mathias Thurman must conduct due diligence before opening a firewall to let a partner company transfer data. **Page 34**

Ready for TROUBLE?

Faced with potential catastrophe caused by anything from the weather to a malicious attack, companies need to make sure their disaster recovery plans match best practices.

IT WAS THE MONDAY MORNING after the July 4th weekend. The power went out in the highest building in Philadelphia. Not to worry, the disaster recovery (DR) specialists had that one covered — the building had a connection to a separate part of the grid. But then the repair crew accidentally severed the backup connection.

"Every disaster has a different face, so no one can accurately predict," says Nick Voutsakis, chief technology officer at Glenmede Trust Co., a wealth management firm whose headquarters occupies four floors of that building in Philly. "Your planning has to be flexible enough to cope."

Incidents like this one give businesses a chance to see their DR technology in action. While some companies pass with flying colors, the plans of others are exposed as incomplete, unrealistic and technologically flawed. So, what are the tried-and-true best practices, what technologies should be deployed, and how should IT cooperate with the organization as a whole in order to take all necessary precautions?

"Those companies with untested or poorly tested plans will eventually discover that they aren't as protected as they thought they were," says Mike Karp, an analyst at Enterprise Management Associates Inc. in Boulder, Colo.

Planning for the Unplanned

Some DR plans are too simplistic, don't mesh with the real world and have little value in an emergency. Others are complex tomes that nobody reads. According to Voutsakis, the trick is finding a balance.

But even companies with well-compiled plans can look foolish if nobody can find the plan when they need it. It's no good if it's lost in a binder or in a PC that's down because of the disaster. So keep copies of the plan in multiple locations.

"We include copies of our plan in the emergency packs we provide to employees containing food, medical supplies, flashlights and so on," says Voutsakis.

Glenmede is primarily a Windows 2000/XP shop that uses Cisco Systems Inc. switches and Dell Inc. servers and desktops. Its DR plan has several layers,

BY
DREW
ROBB



FROM THE TRENCHES

1

For inter-organizational gains, consider sharing an off-site machine with other companies. The Members Group does this with an IBM Center server; each company pays its own network services provider to host it.

2

Use partners and leverage their expertise to study your disaster recovery plan work. Help from accounts for their technology functioning is provided.

3

Consider setting up an arrangement where your company and one or two others operate as replicators for each other's systems. Says Mike Gray, an analyst at Enterprise Management Associates,

4

"that's dangerous in some operating systems. Many vendors of OSs," says Michael Smith, chief executive of consultants at Fortis.com, "do not allow, say, Microsoft and others."

5

How enough time to smoothly migrate systems. But can most move off-site from one system to another? "Temporary operations sometimes result in a complete" solution sometimes more, but when systems from one location to another, says Jeff Russell, CIO at The Members Group.

6

How often planning the incident itself. Windows is the standard option for the most likely, often DR is left to the operators," says Michael Smith of Deutsche Bank.

7

How much to invest in disaster recovery equipment like the recovery plan," says Michael Smith, director of business continuity at Deutsche Technology Inc. in Boston, R. Through years of experience into its own systems, telecommunications design, services and equipment manufacturing, the resources, and plans under discussion to tell you where you want to go. "The investment is to build a business that doesn't exist on a day," says Gray.

8

How often systems are tested again. But what if the system is tested and what data is tested and then replicated from the system? Some companies can do this on a daily basis, and others perhaps weekly. "We're not sure about performance versus the risk of the system," says Jeff Russell, CIO at The Members Group.

9

How much to invest in disaster recovery equipment like the recovery plan," says Michael Smith, director of business continuity at Deutsche Technology Inc. in Boston, R.

depending on the situation. If people can't get to work because of excessive snow, the servers keep running at headquarters and the staff works securely from home. If the building's power goes out, the critical systems can be brought up within four hours at a "hot site" across town owned by business continuity services and outsourcing provider SunGard Availability Services Inc., a unit of SunGard Data Systems Inc. If an event keeps employees out of the building for a week, desktops for key personnel are standing by at SunGard.

During the Independence Day weekend outage, Glennede's management declared an emergency at 7:30 a.m. Since all data is replicated to the hot site, the company had all systems running by 11:30 a.m. But it takes a well-oiled machine to pull that off smoothly. And that means teamwork.

"Form a business continuity program with a dedicated team of two to five people, with a senior management sponsor," advises Roberta Witny, an analyst at Gartner Inc. in Stamford, Conn.

Glennede's primary DR committee consists of the CTO, the heads of office services and risk management, and an IT audit member. The committee appointed an extended business continuity group consisting of representatives of 20 business units. These people are trained in business continuity, write the plans and collaborate with their business units. The minutes of both committees' sessions are sent to Glennede's board of directors.

Each business unit has to evaluate its processes and needs. At The Members Group Inc., a West Des Moines, Iowa-based company that provides card-processing and mortgage services to credit unions, the necessary recovery period varied widely by department and time of the month. Payroll, for instance, might be happy with a 13-day recovery window at the start of the payroll period and a 30-minute recovery on payday.

"You have to work with the business units to fully understand the drivers of each application," says Jeff Russell, CIO at The Members Group. It's impossible for a lone IT staffer to appreciate the particular needs of each department. The Members Group uses Stonely Replicator, an IP storage-area network-based asynchronous disaster recovery product from San Diego-based Stonely Networks Inc. to maintain a mirror image of critical data at a remote location.

State-of-the-Art Technology

While opinions vary as to what constitutes state-of-the-art technology, experts such as Karp of Enterprise Management Associates and Chip Nickollett, a disaster recovery specialist at Comprehensive Consulting Solutions Inc. in Brookfield, Wis., agree that clustering, SAN mirroring and replication are on the leading edge. However, they warn that these can be expensive technologies.

Among operating systems, OpenVMS and Unix seem to be favored more than others. Alpha/OpenVMS, for example, has built-in clustering technology that many companies use to mirror data between sites. Many financial institutions, including Commerzbank, the International Securities Exchange and Deutsche Bank AG, rely on VMS-based mirroring to protect their heavy-duty transaction-processing systems.

Deutsche Bank, a German exchange for stocks and

RECOVERY vs. CONTINUITY

What's the difference between disaster recovery and business continuity? According to John Glenn, a DC consultant in Clearwater, Fla., DR deals solely with IT and what it perceives as the business units' requirements. BC, on the other hand, focuses on the business units. IT is just one of the functions that serve from units, and it's one level of business continuity, along with human resources, accounting and emergency preparedness.

"Most IT folks think BC is just a new name for DR," says Glenn. "Instead of running the program from IT, it is far more effective to put BC—of which DR is a subset—under the CFO, CEO or COO."

In the event of a disaster, BC means that the company can continue to provide critical services while the enterprise is being restored to full functionality. BC focuses on avoiding or minimizing risks. DR restores the organization afterward.

"DR must be based on a solid BC plan that has taken into account the reality of the business requirements for recovery," says Michael Gray, director of business continuity at IT infrastructure consultancy Fomby Technology Inc.

And IT organizations are beginning to get the point.

"We have gotten away from the term DR since it assumes the facility is not available," said Jeff Russell, CIO at The Members Group. "BC, on the other hand, deals with how we continue to do despite business interruption."

—David Ribick

derivatives, has deployed an OpenVMS cluster over two sites situated 5 kilometers apart. It also uses Fibre Channel switches from San Jose-based Brocade Communications Systems Inc. and Cisco switches and routers in its network to ensure high availability. "DR is not about cold or warm backups. It's about having your data active and online no matter what," says Michael Gruth, head of systems and network support at Deutsche Börse. "That requires cluster technology which is online at both sites."

For its part, Windows has as many detractors as advocates. "While we've never failed to recover a Unix system, it's a different story with Windows," says Nickollett. "Common problems include failed restores, software conflicts and issues with patches or service packs."

Forbes.com Inc. in New York also favors platforms besides Windows. Each business day, it publishes more than 1,500 articles online, making heavy use of an advertising workflow system running on an Intel/Linux platform and a content management system hosted on high-end Fujitsu Ltd. servers that run Sun Solaris. Both are protected using the Continuous Protection System, an appliance from Revivio Inc. in Lexington, Mass. A Gigabit Ethernet line connects to a data center at an unspecified location using host-based mirroring technology. "We're able to switch to the appliance in the event that the primary system has a problem," says Michael Smith, general manager of operations at Forbes.com.

But not everyone agrees that Windows should be avoided. In fact, the Cancer Therapy & Research Center (CTRC) in San Antonio stakes its patients' lives on a combination of Microsoft Corp., EMC Corp. and Cisco tools for host-based mirroring. At the medical center, 21 servers—primarily Windows

2000/2003, plus a few Linux boxes — store data on an EMC Clariiio FC4700 array. Two Cisco SN 5428 iSCSI routers and a Cisco MDS 9506 switch mirror data and large imaging files over a Gigabit Ethernet network to another Clariiio array at the research center 22 miles away. According to Mike Luter, CTO at CTRC, it takes 10 minutes to recover a downed server and restore service.

"Business continuity is far more important to us than disaster recovery," says Luter. "We want our applications always available to our patients. If we lost the building, it would take a lot more than a few computer systems to be able to treat our patients elsewhere."

Testing Times

The finest technology and the most skillful planning are about as far as many companies go in DR, and that's nowhere near far enough. It takes testing gear to prepare for the real thing. "Failing to follow through with exercises to locate and correct plan deficiencies is a common error," says John Glenn, a business continuity consultant in Clearwater, Fla.

That doesn't mean an IT administrator "dummy-running" the plan over the weekend on his own, Glenn says. You should bring all systems down on a Sunday to see if the remote site operates as planned. And

A CRISIS MANAGEMENT PLANNING GRID			
	Site or component outage (internal)	Site outage (external)	Application outage (internal)
Disaster recovery	Disaster recovery plan	Business recovery plan	Alternate processing plan
Business continuity	File at the data center; critical server failure	Electrical outage in the building	Credit authorization system is down
Business resiliency	Recovery site in a different location	Recovery site in a different power grid	Manual procedure
			External event forcing change to internal process
			Business contingency plan
			Main supplier can't ship due to its own problem
			25% backup of vital products; backup supplier

bring in a few dozen employees and run a live test to see how the business units are affected. Can finance continue accounting, sales keep selling and production continue to turn out products? In addition, surprise everyone with a few random exercises during the workweek, suggests Smith of Forbes.com.

"We test our entire plan seven times a year," says Glenmède's Voutsakis. "We evaluate our performance for different levels of disaster and various kinds of events, including sending staff home to see how well they can perform there." He says that the

problems that can cripple you during an actual disaster show up only during real-world exercises.

That was the case at The Members Group. It thought it had plenty of bandwidth to replicate off-site. But its TI lines proved inadequate. For example, its SQL database couldn't be adequately replicated because of bandwidth constraints, so it hasn't been transferred to the IP SAN. Similarly, more than half of the company's servers remain unmirrored. "We're moving our primary facility in May and will add more bandwidth at that time," says Russell. ☎ 53856

and then it hits you://

**SECURITY ISN'T ABOUT KEEPING
PEOPLE OUT. IT'S ABOUT LETTING
THE RIGHT PEOPLE IN.**

Novell.

find out more at novell.com

2000/2003, plus a few Linux boxes — store data on an EMC Clarion FC4700 array. Two Cisco MDS 9506 switch mirror data and large imaging files over a Gigabit Ethernet network to another Clarion array at the research center 22 miles away. According to Mike Luter, CTO at CTRC, it takes 10 minutes to recover a downed server and restore service.

"Business continuity is far more important to us than disaster recovery," says Luter. "We want our applications always available to our patients. If we lost the building, it would take a lot more than a few computer systems to be able to treat our patients elsewhere."

Testing Times

The finest technology and the most skillful planning are about as far as many companies go in DR, and that's nowhere near far enough. It takes testing before to prepare for the real thing. "Falling to follow through with exercises to locate and correct plan deficiencies is a common error," says John Glenn, a business continuity consultant in Clearwater, Fla.

That doesn't mean an IT administrator "dummy-running" the plan over the weekend on his own. Glenn says. You should bring all systems down on a Sunday to see if the remote site operates as planned. And

A CRISIS MANAGEMENT PLANNING GRID			
	Mission-critical applications	Mission-critical business processing (work spaces)	Business process work-ware
Focus	Site or component outage (external)	Site outage (external)	Application outage (internal)
Deliverable	Disaster recovery plan	Business recovery plan	Alternate processing plan
Sample event(s)	Fire at the data center; critical server failure	Electrical outage in the building	Credit authorization system is down
Sample solution	Recovery site in a different location	Recovery site in a different power grid	Manual procedure
	External event		
	External event forcing change to internal process		Business contingency plan
			Mean supplier can't ship due to its own problem
			25% backup of vital products; backup supplier

SOURCE: GARDNER REE, STAMFORD, CONN.

bring in a few dozen employees and run a live test to see how the business units are affected. Can finance continue accounting, sales keep selling and production continue to turn out products? In addition, surprise everyone with a few random exercises during the workweek, suggests Smith of Forbes.com.

"We test our entire plan seven times a year," says Glenmede's Voutsakis. "We evaluate our performance for different levels of disaster and various kinds of events, including sending staff home to see how well they can perform there." He says that the

problems that can cripple you during an actual disaster show up only during real-world exercises.

That was the case at The Members Group. It thought it had plenty of bandwidth to replicate off-site. But its T1 lines proved inadequate. For example, its SQL database couldn't be adequately replicated because of bandwidth constraints, so it hasn't been transferred to the IP SAN. Similarly, more than half of the company's servers remain unmirrored. "We're moving our primary facility in May and will add more bandwidth at that time," says Russell. ☎ 53856

and then it hits you://

**SECURITY ISN'T ABOUT KEEPING
PEOPLE OUT. IT'S ABOUT LETTING
THE RIGHT PEOPLE IN.**

Novell

find out more at novell.com



BY ROBERT L. MITCHELL

WHAT STARTED SIMPLY AS A way to consolidate older, out-of-warranty servers has quickly turned into a new infrastructure building block in Qualcomm Inc.'s data center. Virtual machines (VM) have risen to become a corporate standard for deploying and managing x86-based servers at the semiconductor maker. "We saved in the seven-figure range by not buying servers. Going forward, we're continuing to consolidate, and we're pushing everything we can into the virtual space," says Norm Fjeldheim, senior vice president and CIO at the San Diego-based company.

Server virtualization software allows applications to sit side by side on the same physical server, yet remain completely isolated, both from one another and from the underlying hardware. Applications within a VM see a dedicated operating system and server. Under the hood, however, a VM monitor allocates a share of the physical server's processor, memory and I/O resources to each VM.

Virtualization breaks the link between the hardware and the common requirement that applications run on dedicated servers. Adding a virtualization layer adds processing overhead that can range from an increase of a few percentage points into the double digits. However, most servers are significantly underutilized, so consolidation benefits are often dramatic.

At Qualcomm, which uses VMware Inc.'s ESX Server virtualization software, the ratio of VMs to physical servers has been as high as 18-to-1. Some 384 servers now run in VMs that reside on just 35 dual- and quad-processor machines. In all, 40% of the x86-based server applications at Qualcomm

HOSTS IN THE MACHINE

VIRTUAL MACHINES ARE CHANGING THE WAY IT THINKS ABOUT AND USES X86-BASED SERVERS IN THE DATA CENTER.

run on VMs, and that will increase to 50% in the next six months, says Paul Poppleton, senior staff engineer at the company.

As application servers continue to scale out, the proliferation of x86-based servers has outstripped the ability of administrators to manage them, says Nigel Dessau, vice president of virtualization solutions at IBM. Businesses today have seven times more servers than they did just 10 years ago, but the cost of managing them is nine times higher, he says. "Virtualization can start tackling that problem," Dessau adds.

Once dismissed as a neat hack that in-house developers used to quickly test software within multiple virtual environments, virtualization technology has taken hold for tasks ranging from consolidation to business continuity and even virtualized symmetrical multiprocessing (SMP) systems.

Early concerns about application support are fading. A few years ago, software vendors balked at supporting applications running within VMs. Bowing to user demand, today larger software vendors such as Oracle Corp. and Computer Associates International Inc. support products running within VMs, and vendors of smaller, niche-market programs are increasingly following. "We're pushing for all of our suppli-

Server Virtualization

GOOD

BAD

and then it hits you://

YOU CAN GET 24/7 SUPPORT FOR LINUX

NO MATTER WHERE YOU ARE.

Novell.

find out more at novell.com

run on VMs, and that will increase to 50% in the next six months, says Paul Poppleton, senior staff engineer at the company.

As application servers continue to scale out, the proliferation of x86-based servers has outstripped the ability of administrators to manage them, says Nigel Dessau, vice president of virtualization solutions at IBM. Businesses today have seven times more servers than they did just 10 years ago, but the cost of managing them is nine times higher, he says. "Virtualization can start tackling that problem," Dessau adds.

Once dismissed as a neat hack that in-house developers used to quickly test software within multiple virtual environments, virtualization technology has taken hold for tasks ranging from consolidation to business continuity and even virtualized symmetrical multiprocessing (SMP) systems.

Early concerns about application support are fading. A few years ago, software vendors balked at supporting applications running within VMs. Now, to user demand, today larger software vendors such as Oracle Corp. and Computer Associates International Inc. support products running within VMs, and vendors of smaller, niche-market programs are increasingly following. "We're pushing for all of our suppli-

Server Virtualization

THE GOOD

CONSOLIDATION: Users report consolidation efficiencies ranging from a few VMs per processor to as many as 15. Qualcomm consolidated 384 server applications onto 35 physical servers.

SERVER DEPLOYMENT: Application servers deployed as VMs can be set up quickly. "It used to take eight hours to put a new application on the data center floor. With virtual servers, it takes anywhere from 15 to 20 minutes," says Bob Armstrong of Delaware North.

BUSINESS CONTINUITY: VMs are hardware-independent. Disk images of a VM can be quickly copied to another server in the event of a hardware failure or for routine maintenance - without disrupting running processes.

SOFTWARE SUPPORT: An increasing number of software vendors now support their products when running on VMs.

THE BAD

SINGLE POINT OF FAILURE: A hardware failure on a single physical server can take down multiple virtual servers. Delaware North raised its hardware-

support contract from a four-hour response to a one-hour response.

LICENSING: Software vendors may charge per CPU - and per VM. In some systems, users must license an operating system for the host and for each VM.

SCALING UP: Current products don't work as well for processor-intensive applications or those requiring heavy I/O.

OVERHEAD: Virtualization adds a software layer that can soak up processing cycles. Users and vendors say overhead can range from 2% or 3% to as high as 25%, depending on the product and application.

-Robert L. Mitchell

and then it hits you: //

**YOU CAN GET 24/7 SUPPORT FOR LINUX
NO MATTER WHERE YOU ARE.**

Novell

find out more at novell.com

UNDER THE HOOD: The Soul of a Virtual Machine

ALTHOUGH VIRTUALIZATION TOOLS have similar objectives and use a virtualization software layer, called a resource manager or hypervisor, to manage virtual machines, the basic architectures vary.

In software-based VMs, the resource manager sits on top of a host operating system and fulfills the requests of multiple guest operating systems loaded on top of it (see diagrams). Microsoft Virtual Server 2005 and VMware ESX Server follow this model.

Other products, such as Xen and VMware's ESX Server, run in a hypervisor that sits beneath the guest operating systems and the hardware. Because the software layer sits on the "bare metal," there are sometimes referred to as *hardware VMs*. Direct contact with the system hardware allows the VMs to work more efficiently.

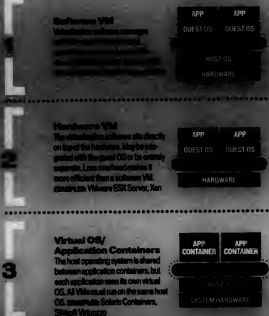
Other products, such as Solaris Containers in Sun Microsystems Inc.'s Solaris 10 and VMware Inc.'s Virtu-

ozzo, also use a software-based model but eliminate guest operating systems in favor of "virtualized operating systems," or application containers. Each application appears to have the operating system to itself, but in fact, core elements, such as the kernel and system libraries, are shared. This approach is more efficient than running a full-blown guest operating system in each VM and saves on software costs because one operating system license can be used for all VMs on a physical server. But there's a catch: Virtual operating systems can support only applications that will run on the host operating system.

IOC analyst Dan Kuvshinov says each approach fits a different need. "Those who need power will want approaches that are very lightweight. Others are more concerned about optimizing resources," he says. "A single approach will not fit the need everywhere."

—Robert L. Mitchell

VIRTUAL MACHINE APPROACHES



ers to support VMware," Fieldheim says.

Three quarters of ESX Server deployments are in data centers, according to VMware, an EMC Corp. business unit. Framingham, Mass.-based market research company IDC expects strong growth in VM software between 2004 and 2008, with sales growing 79%, to \$261 million, over the four-year period. Those numbers don't account for the expected growth in the adoption of Xen, a free, open-source virtualization program for Linux and BSD Unix servers that's supported by Palo Alto, Calif.-based start-up XenSource Inc.

Disaster Avoidance

Now that virtualization technology has proved itself as a consolidation tool for the data center, organizations are pursuing new uses, such as VM portability. An entire VM can be encapsulated in a single disk-image file and quickly deployed on any hardware running the same virtualization software.

"All that's necessary is to copy the file to a disk or tape or send it down the network," says IDC analyst Dan Kuvshinov. "We've seen people use it as a software distribution mechanism." That portability aspect makes VM technology attractive for business continuity as well.

For example, travel consolidator Fun Sun Vacations Ltd. in Edmonton, Alberta, first used Xen VMs to consolidate its Linux-based Web application servers. Now it uses VMs as a disaster recovery mechanism. Because the virtualization software is abstracted from the hardware, manager of information services Derek Larkie says he can quickly move a critical VM that handles credit card transactions onto any available server in the collocation data center.

"Usually, at the time of disaster, you are working with blank hardware with nothing on it. We imaged a Xen [VM] and brought it to a blank server, and we had it up and going in about 15 minutes," he says. Before, Larkie notes, "applications that originally would have taken too long to implement in the event of a disaster would have to be preconfigured and running at the collocation site on their own hardware." Now, a single machine can serve as a fail-over machine for multiple VMs and can be made available for other tasks until needed.

Qualcomm uses VMotion, a management utility from VMware that can slide running VMs onto a new physical server with minimal disruption. "We've been able to move processors onto a different physical environment in scenarios where we would have lost the processes before. Our service levels are up," says senior staff engineer Paul Poppleston.

Robert Armstrong, director of technical services at hospitality services vendor Delaware North Cos. in Buffalo, N.Y., says the ability to move VMs between physical systems is also critical for server maintenance in a virtualized environment. Armstrong used VMware to host both Windows and NetWare VMs, reducing the data center footprint from 12 racks to three. "The maintenance windows shrink dramatically when you have eight or nine virtual machines on one physical device," he says.

Larkie says VMware's management tools are the most advanced. "Hands down, VMware is the best out there, the way it manages, the way you can throw around virtual machines," he says. But Larkie says

ESX Server, with management software and support for 14 dual-processor servers, would have cost \$173,000 using products from IBM. Xen requires more knowledge to run properly, but it's free. Given the cost difference, the tools with Xeo were "enough for what we need to do," Larke says.

Scaling Up

While the most common use of virtualization technology is to break down the resources of physical servers into a series of VMs, it's also possible to go the other way, aggregating server CPUs and even sub-CPU VMs into a single, virtualized SMP system.

Carminne Iannace, manager of IT architecture at Welch Foods Inc. in Concord, Mass., says the one thing he hasn't virtualized is his collection of Oracle database servers, which need at least four processors. VMware currently limits VMs to two processors each, so he is waiting for quad-processor support, which the vendor plans to ship later this year.

VFE, a product announced by start-up Virtual Iron Software Inc. in Acton, Mass., will support up to 16 processors per VM. The system will initially support only Linux VMs; its 16-processor limit reflects the maximum SMP configuration currently supported by

Linux. VFE uses high-speed, low-latency InfiniBand host bus adapters and switches to interconnect the physical processors. But Iannace worries that taking this approach would add too much expense for his application. InfiniBand "has to become a commodity item to be useful," he says.

Another product, Virtuozzo, from SWsoft Inc. in Herndon, Va., supports virtual SMPs as large as the physical host system. It can support Linux or Windows Server 2003 VMs — but not both — on the same physical hardware. Jack Henry & Associates Inc., a Lenexa, Kan.-based developer of software for banks, is testing Virtuozzo to meet both scale-up and scale-out requirements. The company's system architecture includes several components and requires multiple servers. Since everything runs on Windows Server 2003, Jack Henry & Associates can leverage Virtuozzo VMs to consolidate the system onto fewer servers, including virtual SMPs that range from two to eight processors.

"In banks, real estate is a huge consideration," says Barry LaLone, server platform architect. Because Virtuozzo's technology doesn't replicate the entire

operating system within each VM, the complete system — 12 VMs in all — can run using just two Windows Server 2003 licenses. With VMware's scheme, LaLone says, he would have had to pay for all 12.

Virtual Data Center

Ultimately, virtualization will become just a standard layer of the infrastructure stack, predicts Karthik Rau, director of product management at VMware.

IBM has its own virtualization technology for its midrange and mainframe systems, and Dessau says the company is building tools for a world where IT must manage a mix of VMs running on mainframe, midrange and x86 processors, and where "islands of virtualization are interconnected across the enterprise." Tools such as Tivoli will manage these resources and dynamically configure and provision virtualized resources as needed.

Dessau says.

But for most users, the immediate benefits are what matters: "Virtualization lends itself to virtual firewalls, application isolation, all kinds of neat things," says Welch's Iannace. "It's a very cost-effective, efficient and reproducible approach." **■ 53725**

VENDORS AND TRICKS

For a list of VM vendors, go to our Web site: QandALink.536933

To learn more about how vendors create VMs that perform well on x86-based machines, visit QandALink.536932

www.computerworld.com

and then it hits you://

**HOW MANY FORMER EMPLOYEES
CAN STILL ACCESS YOUR COMPANY'S
INFORMATION?**

Novell.

find out more at novell.com

STAYING OUT IN Front

That's the approach taken at HP Labs, whether they're looking one year down the road or a decade ahead.
By Gary H. Anthes

YOU CAN HARDLY pick up a business or IT publication these days without finding someone exhorting Hewlett-Packard Co. to "reinvent" itself.

Regardless of how, or if, new CEO Mark Hurd does that, IT seems likely to go on quietly reinventing itself inside HP Laboratories. The labs may get only 5% of HP's total research and development budget, but they're working on a broad array of technologies, from data center management tools that are expected to find commercial applica-

tions next year, to new computer architectures that won't hit the marketplace for at least seven years, if ever.

"We try to be out in front of the company," says Robert F. Waices, director of strategic planning at HP Labs in Palo Alto, Calif. "We try to skate where the hockey puck will be, not where it is today."

Many of HP Labs' 700 employees are now skating toward a "reinvention of the economics of IT," one of six broad research areas that includes projects in grid and utility computing, self-managing systems, virtualization and smart data centers.

"The most fruitful places to innovate are now above the commodity operating system and CPU chips," Waices says. "We have very little work going on in CPU architectures, but 20 years ago, that was a dominant research program."

What's in Store Near Term Both Ken, manager of storage systems research, says most IT shops spend 80% of their budgets on hardware and software maintenance. The goal of a suite of projects at HP Labs is to knock that down by almost half. The key is to automate IT tasks such as provisioning disk arrays and configuring networks, she says.

"There are many steps, and if you screw it up, you are in big trouble. And because these tasks are repetitive and complex, they are not a good fit for human cognitive skills," Keer says.

Projects that attack this problem lie in two broad areas: virtualization, and automated management and control. They include the following:

• **SoftUDC.** The software-based Utility Data Center is a prototype tool for virtualizing server, network and storage resources. It creates a logical layer across disparate hardware and a single, centrally managed pool of resources.

• **FAB.** The Federated Array of Bricks consists of low-cost, industry-standard hardware and proprietary software that allows easy provisioning of storage systems. A "brick" holds a number of disks and a CPU controller. Additional bricks can be mapped in for "capacity on demand," with the Linux-based software automatically stripping data across the bricks and providing for redundancy in case of failure.

• **SLIC.** Statistical Learning, Inference and Control tools use pattern recognition and probabilistic models to identi-

fy aberrant system behavior. Research is now focusing on forecasting problems.

• **Smart Data Center.** This project involves figuring out how to better cool ultradense components such as blade servers while saving on energy costs. "Dynamic smart cooling" uses thermal modeling, networked sensors and clever robots to lower cooling costs by 70%, HP claims. Keer seems undeterred by the technical challenges in her work, but she acknowledges some doubts on the user front. "There are some human factors about people's reluctance to adopt new technologies," Keer says. "If they can't see what's going on, do they trust the automation?"

Longer-Term Goals

While Keer works on things that have one foot in the marketplace, HP Labs' Duncan Stewart is focused on something unlikely to have any payoff for seven to 10 years. The research physicist and his colleagues are hoping to shrink computers to almost unimaginably tiny dimensions.

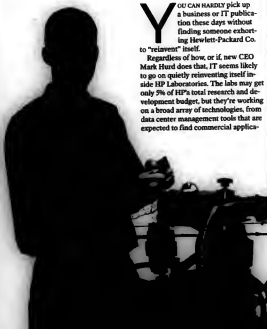
For more than six years, HP Labs has been inventing a radical new approach to computing based on crossbar technology. HP's crossbars are molecular-scale circuits consisting of grids of wires whose intersections can be populated, by programming, with various devices such as resistors, diodes and switches. Several

years ago, HP showed that these crossbar arrays could be used to make memory and very simple logic circuits far smaller than equivalent circuits made from silicon transistors.

But HP found two show-stoppers on the way to making a practical computer: There seemed to be no way to restore degraded signals as they traveled from one logic gate to another and no way to do signal inversion, which is necessary to perform the Boolean NOT operation. Both functions are a cinch with silicon transistors.

Then, in February, HP Labs announced a breakthrough — a way to perform both signal restoration and inversion using a pair of very simple molecular-scale switches combined into a crossbar latch.

"Latches are the glue that holds together all of the different pieces of memory and logic inside of a processor," Stewart says. "That was the missing piece that will enable all kinds of computing to be done at the molecular scale. We are going to build the smallest computer in the world."





Meanwhile, conventional chips will become extremely difficult and expensive to make as they get smaller. A published road map for the semiconductor industry has the smallest distances between wires on a memory chip shrinking from 90 nanometers today to 65nm in 2007, to 45nm in 2010, to 32nm in 2013 and on down from there.

"What they are going to do 12 years from now is mapped out, but they don't have a clue how to do that," says Stewart. "In fact, they think they may not be able to do it."

The 32nm milestone is "a reasonable place for us to inject some of these ideas," he says. The idea isn't to replace silicon transistors but to build certain devices, such as ultradense memories, on top of CMOS chips. Stewart says HP hopes to eventually build crossbar devices smaller than 3nm.

Meyya Meyyappan, director of the Center for Nanotechnology at NASA's

Ames Research Center, says it's too early to say whether HP will succeed. "Until today, everyone was doing straightforward silicon CMOS-like technology," he says. "As such, there was nothing novel. But the crossbar architecture is a novel concept with the potential to lead toward future-generation electronics."

One application of these Lilliputian computers might be to give tiny sensors, or "motors," enough processing power to perform very compute-intensive functions. For example, Stewart says, "If I can deliver you a very small computer — a few microns square — that can run on power it soaks up from the environment, then things like RFID tags can have cryptography."

Could there be more show-stoppers? "The biggest one I've seen in research labs is economics," Stewart says, after some thought. "When your technology is actually ready to go, the market may not be ready for it." ■ 55564

and then it hits you://

**RIGHT NOW YOUR COMPETITORS
ARE DISCOVERING LINUX, TOO.**

Novell.

find out more at novell.com

THIS IT STAFF



**IS ARMED AND
READY**

MICROSOFT.COM/SECURITY/IT

Microsoft

Find the tools and guidance you need for a well-guarded network
at [microsoft.com security/IT](http://microsoft.com/security/IT)

BRIEFS

Dieselpoint Unveils Latest Search Tool

■ Dieselpoint Inc. in Chicago has announced Version 3.5 of Dieselpoint Search. Enhancements include new indexing and logging features, extended support for wild-card-based searches, and secure search support for sensitive or confidential data. Dieselpoint said. The all-Java application is designed to help users find information in data repositories that include documents, databases, XML, and other sources. Dieselpoint 3.5 is available now and starts at \$20,000 for a minimum of two CPUs.

PSS Systems Launches AtlasIPM

■ PSS Systems in Palo Alto, Calif., has introduced the AtlasIPM information policy management suite, a set of software systems that are designed to help companies automate the management and enforcement of information policies. The software assists with the retention, disposition, preservation and production of data stored on PCs and file servers, the company said. It includes Policy Atlas, a centralized policy repository, and Policy Point, a software agent that can be synchronized with Policy Atlas to determine when and how to dispose of a record. AtlasIPM runs on Windows and Linux and is priced starting at \$100,000.

Archiving Tool for Siebel Apps Ships

■ Princeton Siebel Inc. in Princeton, N.J., announced last week that it will be launching Archive for Servers Siebel Edition, as well as enhancements to Archive for DB2 PeopleSoft. Princeton said the new edition allows users to archive data from Siebel application families such as Call Center and is targeted at companies that want to employ a tiered data-storage architecture. Archive for Servers Siebel Edition starts at \$50,000 retail.

Get Physical About IT Security

A SAN JOSE-BASED medical practice recently notified about 185,000 current and former patients about the theft of their personal information. Stored on two computers, the data was stolen from the medical office during a burglary that occurred March 28 [QuickLink 53707].

Under California law SB 1380, the medical group was required to publicly disclose the computer security breach because the confidential information of California residents may have been compromised. Unfortunately, that law promises to teach both businesses and the public plenty of lessons about insufficient security practices like those high-lighted in the San Jose case.

Let's face it: Hardware and software are usually less secure when they're located in an open workspace than they are when they're located in a separate computer room. Security is further decreased when the hardware and/or software is used within a network of computers that aren't housed at a single location. And the level of vulnerability is even higher when the network extends beyond the organization's premises. Some assets—like hardware devices and data and software that are stored on file servers, PCs or removable media like tapes and disks—need to be secured physically. Part of physical security is ensuring that only authorized personnel are permitted to transmit data and access devices on LANs.

The National Computer Security Center's "Journey of Computer Security Terms" defines physical security as "the application of physical barriers and control procedures as preventive measures or countermeasures against threats to resources and sensitive information." According to security expert and author Kevin Beaver, CISA, "You cannot



Physical security is an Internet security specialist. Contact him at [redacted]

have any sense of information security if you don't implement proper physical security measures."

Unfortunately, IT departments may disregard physical security, fearing that it's too expensive or too much of a burden. But effectively controlling physical access to an organization's facilities should be the security staff's top concern.

When it comes to physical security, most organizations use one or a combination of mechanisms. Security guards are at the front line and should be trained to restrict the removal of assets from the premises. Among other things, they should be trained to record the identity of anyone removing assets. In addition, an authorization procedure should be established for those occasions when removing hardware and software from the premises is necessary.

A traditional lock is, of course, one of the simplest ways to secure physical access to IT assets. This ubiquitous security system has effectively impeded access for centuries. While it's decidedly low-tech, this approach nevertheless remains appealing to those on a budget, since it's simple and doesn't cost very much. If you wish to add another layer to this security model, you can use keys that can't be duplicated or build "mantraps" in which those who wish to gain entry must pass through two doors, avoiding one person at a time.

Electronic key cards are another good option, and they provide a higher level

of security than the traditional lock-and-key approach. With this technology, a user gains entry by swiping an electronically coded plastic card through a magnetic badge reader. An advantage of key-card systems is that they eliminate some of the management problems that arise when you use locks and keys. For example, if an employee quits and walks off with his card, you don't have to change the locks; you just deactivate his card.

Perhaps the most intriguing approaches to physical security are those that utilize biometrics. Biometric authentication involves the examination of physical traits of users. The examined feature is compared with stored reference data. Identifiable traits include fingerprints, hand geometry, voice patterns, facial patterns, and iris and retina patterns. Biometrics, or at least the promise of the various technologies involved, is currently at the forefront of thinking about authentication. But organizations have been slow to adopt biometrics, partially because the products available can be expensive and aren't as foolproof as they should be.

Remembering that control procedures are necessary for all of the hardware and software you use will go a long way toward protecting less-secure environments. Of course, the level of access control you choose will have to be adjusted depending upon the sensitivity of the data being accessed. Other variables include the significance of the applications processed, the cost of the equipment and the availability of backup equipment.

Because laptops are portable and hence targets for theft and misuse, they must be included in the security policy equation. Again, their location and the amount of sensitive data they contain will determine how much physical security they require.

This may sound basic, and it is. But any comprehensive security plan has to start with physical security. ■ PH344

WANT OUR OPINION?

For more opinions and tips to help you do it right, go to www.computerworld.com/opinions

BRIEFS

Dieselpoint Unveils Latest Search Tool

■ Dieselpoint Inc. in Chicago has announced Version 3.5 of Dieselpoint Search. Enhancements include new indexing and logging features, extended support for off-line-based searches, and secure search support for sensitive or confidential data. Dieselpoint said. The off-line application is designed to help users find information in data repositories that include documents, databases, XML, and other resources. Dieselpoint 3.5 is available now and starts at \$20,000 for a minimum of two CPUs.

PSS Systems Launches AtlasIPM

■ PSS Systems in Palo Alto, Calif., has introduced the AtlasIPM information policy management suite, a set of software applications that are designed to help companies automate the management and enforcement of information policies. The software assists with the retention, disposition, preservation and production of data stored on PCs and file servers, the company said. It includes Policy Atlas, a centralized policy repository, and Policy Point, a software agent that can be synchronized with Policy Atlas to determine when and how to dispose of a record. AtlasIPM runs on Windows and Linux and is priced starting at \$100,000.

Archiving Tool for Siebel Apps Ships

■ Princeton Software Inc. in Princeton, N.J., announced last week that it will be launching Archive for Siebers Siebel Edition, as well as enhancements to Archive for DB2 PeopleSoft. Princeton said the new edition allows users to archive data from Siebel application services such as Card Center and is targeted at companies that want to employ a tiered data-storage architecture. Archive for Siebers Siebel Edition starts at \$50,000 retail.

DOUGLAS SCHWEITZER

Get Physical About IT Security

A SAN JOSE-BASED medical practice recently notified about 185,000 current and former patients about the theft of their personal information. Stored on two computers, the data was stolen from the medical office during a burglary that occurred March 28 [QuickLink 53707].

Under California law SB 1386, the medical group was required to publicly disclose the computer security breach because the confidential information of California residents may have been compromised. Unfortunately, that law promises to teach both businesses and the public plenty of lessons about insufficient security practices like those highlighted in the San Jose case.

Let's face it: Hardware and software are usually less secure when they're located in an open workspace than they are when they're located in a separate computer room. Security is further decreased when the hardware and/or software is used within a network of computers that aren't housed at a single location. And the level of vulnerability is even higher when the network extends beyond the organization's premises. Some assets — like hardware devices and data and software that are stored on file servers, PCs or removable media like tapes and disks — need to be secured physically. Part of physical security is ensuring that only authorized personnel are permitted to transmit data and access devices on LANs.

The National Computer Security Center's "Glossary of Computer Security Terms" defines physical security as "the application of physical barriers and control procedures as preventive measures or countermeasures against threats to resources and sensitive information."

According to security expert and author Kevin Bewer, CISSP, "You cannot

have any sense of information security if you don't implement proper physical security measures."

Unfortunately, IT departments may disregard physical security, fearing that it's too expensive or too much of a burden. But effectively controlling physical access to an organization's facilities should be the security staff's top concern.

When it comes to physical security, most organizations

use one or a combination of mechanisms. Security guards are at the front line and should be trained to restrict the removal of assets from the premises. Among other things, they should be trained to record the identity of anyone removing assets. In addition, an authorization procedure should be established for those occasions when removing hardware and software from the premises is necessary.

A traditional lock is, of course, one of the simplest ways to secure physical access to IT assets. This ubiquitous security system has effectively impeded access for centuries. While it's decidedly low tech, this approach nevertheless remains appealing to those on a budget, since it's simple and doesn't cost very much. If you wish to add another layer to this security model, you can use keys that can't be duplicated or build "mantraps" in which those who wish to gain entry must pass through two doors, so only one person can enter at a time.

Electronic key cards are another good option, and they provide a higher level

of security than the traditional lock-and-key approach. With this technology, a user gains entry by swiping an electronically coded plastic card through a magnetic badge reader. An advantage of key-card systems is that they eliminate some of the management problems that arise when you use locks and keys. For example, if an employee quits and walks off with his card, you don't have to change the locks; you just deactivate his card.

Perhaps the most intriguing approaches to physical security are those that utilize biometrics. Biometric authentication involves the examination of physical traits of users. The examined feature is compared with stored reference data. Identifiable traits include fingerprints, hand geometry, voice patterns, facial patterns, and iris and retina patterns. Biometric, or at least the promise of the various technologies involved, is currently at the forefront of thinking about authentication. But organizations have been slow to adopt biometrics, partially because the products available can be expensive and aren't as foolproof as they should be.

Remembering that control procedures are necessary for all of the hardware and software you use will go a long way toward protecting less-secure environments. Of course, the level of access control you choose will have to be adjusted depending upon the sensitivity of the data being accessed. Other variables include the significance of the applications processed, the cost of the equipment and the availability of backup equipment.

Because laptops are portable and hence targets for theft and misuse, they must be included in the security policy equation. Again, their location and the amount of sensitive data they contain will determine how much physical security they require.

This may sound basic, and it is. But any comprehensive security plan has to start with physical security. ■ 53044

WANT OUR OPINION?

For more columns and Web site archives, go to www.computerworld.com/opinion



Got a mobile or wireless solution so good it's worthy of an award?

Nominate it for Computerworld's "Best Practices in Mobile & Wireless" Awards Program!

Computerworld is seeking IT user-organization case study submissions for consideration and recognition.

This program will evaluate, select and recognize ten Mobile and/or Wireless Technology "Best Practices" based on case studies highlighting successful or noteworthy solution implementation projects and deployments in the following categories:

- **Business-critical Applications**
- **Expanding Wireless for Better ROI**
- **Business Transformation**
- **Wireless as an Advantage for the Small/Medium Business**
- **Office of the Future**

Nominations are welcomed from IT Users/Implementers; Systems Integrators/Consultants; IT vendors on behalf of customers, or, their own In-House Deployment; and PR firms on behalf of clients. Multiple submissions of case studies describing different deployments per company/organization will be considered.

Winners will be featured in a special Computerworld supplement profiling the company and submitted case study.

Submit Your Nomination Online!

You'll find the nomination form and learn more about Mobile & Wireless World at: www.mwvusa.com

The deadline is May 11th at 9:00pm Eastern time.



AWARDS PROGRAM SPONSORED BY:



**COMPUTERWORLD
MOBILE & WIRELESS WORLD**

June 13-15, 2005 • The Westin Kierland Resort • Scottsdale, Arizona

For information on, or to register for
Mobile & Wireless World
visit www.mwvusa.com

For conference sponsorship opportunities, call John Amato at 1-508-820-8279

PRODUCED BY:
COMPUTERWORLD
The Voice of IT Management



MORE FROM YOUR NETWORK

MEANS MORE POWER MORE AFFORDABLY.

ProCurve Networking by HP offers a range of affordable gigabit-enabled switches that is second to none. That means you can get better performance from your network along with better performance from your networking dollars. Downloads that used to take minutes can now be done in seconds. And you can do it for cents. Not dollars. That's high-availability gigabit performance at the edge—not just the core of your network. What's more, ProCurve gigabit-enabled switches are backed by a lifetime warranty*—perhaps the best in the industry. More affordability. More choice. More productivity.



ProCurve Networking
HP Innovation

CLICK

www.hp.com/networking/gigabit

CONTACT

your local HP reseller

*Lifetime warranty applies to all ProCurve Products, excluding the ProCurve routing switch 58100s Series and Secure Access 7000 Series, which have a one-year warranty with extensive on-site. ©2004 Hewlett-Packard Development Company, L.P.

Q&A**Scholars & Barbarians**

John Markoff talks about his book, *What the Dormouse Said* . . . which examines the confluence of technology, politics and psychedelics that gave birth to the PC and looks at the continuing controversy over who owns information. **Page 42**

Career Watch

Barry Cohen, a vice president at Wells Real Estate Funds, answers a reader's question about the value of certifications. Plus, aid for the laid-off employees of PeopleSoft; and a wealth gap for knowledge workers. **Page 45**

OPINION**The Hard Facts About Process**

No time to follow standard processes? John Columbus warns that the minutes you save today may cost you hours and dollars tomorrow. **Page 46**



Interim CIOs play many roles, from savior to enforcer, but good cop or bad, they act quickly and move on.

BY MARY K. PRATT

PETE SHELKIN'S tenure as CIO at San Juan Regional Medical Center lasted four months, a short stint even by today's fast-paced standards. Still, Shelkin achieved his goal,

which was to devise a plan to push the Farmington, N.M.-based hospital's IT operations to a new level of performance.

Most CIOs would want more time to tackle such a task, but Shelkin figures the brevity of his assignment helped him. "When you're coming in as an interim [CIO], you're looking to figure out what the organization needs done and get it done quickly without setting your own tone," he says.

Despite the fleeting nature of their work, temporary CIOs like Shelkin say they're expected to do much more than provide caretaker services. They're often hired to turn

Clock

Inside View

PAUL M. LEMERISE has worked for start-ups and multibillion-dollar corporations during his 30-year career. His experience spans all aspects of IT.

Now he's on the market, looking to rent out his expertise.

A partner at Tatum Partners, Lemerise is no longer interested in a permanent executive position.

He has his reasons. "I like the challenge of being tossed up," he says.

That's a common sentiment among those who opt for temporary CIO assignments. They say companies frequently need interim CIOs when IT departments are in disarray. The challenge of setting the IT groups straight draws them to the work.

"I really like the idea of getting in, helping them and then getting out of the way," says Tom Costello, president and CEO of UpStream.

Costello has served as a temporary CIO seven times since 1996. His assignments

have lasted about four months on average. The money isn't bad, either. Several temporary CIOs put the earnings of those in the field at one and a half to three times those of their permanent counterparts. But, they stress, that's not what keeps them looking for those temporary jobs.

Pat Shellen works both at his own company, Shellen Consulting LLC in Yellow Springs, Ohio, and as an associate at Alliance Information Management Inc., a Fairfax, N.D., consulting firm. He recently served four months as interim CIO at San Juan Regional Medical Center in Farmington, N.M., commuting to his Ohio home on weekends.

Hospital officials made it clear that he could leave the post permanently, but Shellen wasn't interested. "I thrive on walking into a situation that's not at all best and helping get it to a state where it is running smoothly," he says. "When things are running smoothly, I get bored."

— Mary K. Pratt

around departments, develop strategies and drive change. As tough as that can be for full-fledged executives, those in interim positions say their jobs come with extra challenges that demand a separate set of skills. They say they're fully up to the task.

"A temporary CIO needs to be a points man, analyst and therapist," says Tom Costello, president and CEO of UpStream Inc., a consulting firm in Malvern, Pa.

That's just the start. Interim CIOs, like their permanent counterparts, must understand how technology supports a company's business goals, experts say. But because of the job's condensed time frame—a temporary CIO's ranges from a few weeks to more than a year—they must be able to move more quickly than permanent executives.

Paul M. Lemerise, a partner at Atlanta-based Tatum Partners LLP, started in January as interim CIO at Pharmavet LLC, a Northridge, Calif.-based vitamin manufacturer and distributor. He has already restructured Pharmavet's IT organization.

But Lemerise says the ability to act quickly is only one of the skills he needs. Prior experience is a must, and experience with turnaround situations is also crucial. "Otherwise," he says, "you'll fail miserably."

Still, temp execs say that's not enough. They must bridge business and technology, handle staffing issues, oversee projects and deployments—

the usual tasks of any CIO—but with neither an in-depth understanding of a company's history nor a network of familiar crosswalkers.

Mary Grossman, president of New York-based Smart Solutions for Health Care, places CIOs into interim positions in the health-care industry. He does his homework before matching executives with clients.

He recently placed a temporary CIO at a 250-bed facility in the Northeast. Before making the placement, he asked a host of questions: Why did the previous CIO leave? Does the CIO report to the CEO or chief financial officer?

What's the CEO's management style? Grossman chose a colleague who so far seems to be the right fit. The individual has a strong technical background, is familiar with the hospital's systems and will be able to implement plans without ruffling feathers.

That last trait is often critical, experts say. Temporary CIOs must deal with a jangle of personal and professional dynamics unique to their situations. Consider, for example, working in the top IT spot after the previous CIO was fired. "You're dealing with people who are friends of the CIO, enemies of the CIO and constituents of the previous CIO," Costello says. "All these people are getting in the mix."

Given that, Lemerise says, interim CIOs must learn to use their influence quickly and effectively. "You have absolutely no span of control; you have tremendous span of influence," he says.

Someone skilled at influencing is a valuable asset, says Larry Johnson, CIO for the government of South Carolina. "When you're in an interim position, you have to be able to facilitate agreement among different parties. As an interim, you don't come in with a huge stick," he says.

When Johnson needed an interim CIO at a state agency, he named a woman who had been running an application development organization for a different state office. "This is an agency that wanted change," he says, explaining that the woman has been charged with developing a plan to upgrade the agency's infrastructure.

"She has some built-in credibility because she comes in from the outside," he explains. "She can move forward and get people moving without worrying too much about whether this person's going to hate me in a year."

Johnson also says he picked her because she's good at getting people to talk.

Bad Cop

Other interim CIOs say that they're brought in specifically to be the "bad guy"—to get in, push through change, then move on so the permanent CIO can come in with a clean slate. "Organizations look to the interim CIO to do some of the dirty work," Shellen says. "Bringing about change, you may create some enemies along the way. There just may be no easy way to get things done without having people hold grudges later. So having an interim guy come in—it's sort of a good cop, bad cop." The permanent CIO can come in without any of the baggage of having made choices that were unpopular with some people.

Steve Fleagle became interim CIO of the University of Iowa in Iowa City in January 2004, a promotion from his job as director of telecommunication and network services. He expects to stay on as interim until July, although he's also a candidate for the permanent post.

Fleagle sees limits to the amount of strategic change a temporary exec can—or should—undertake. "I'd hate to take the organization off in one direction and then have the next CIO take it off in another direction," he says.

Budget decisions illustrate his point. Fleagle struggled when he had to make cuts, trying to figure out what effect his choices would have on the strategic options left leave for his permanent replacement.

Despite the limits inherent in his temporary post, Fleagle says the university had no choice but to fill the

CIO spot—even if it was with a temp proxy leader.

"I think that we've been steadily building momentum in the past 10 years," he says, "and my role is to continue the momentum." **C 53626**

Print it: A Computerworld contributing writer in Waltham, Mass. Contact her at markpratt@verizon.net.

ON-DEMAND CIOs

Do you need an IT chief on a part-time basis? You're not alone. Go to our Web site to learn more.

QuickLink 53629
www.computerworld.com

DISSENTING OPINION

Do you need an IT chief on a part-time basis? You're not alone. Go to our Web site to learn more.

When someone is hired to lead a strategy and execution group, he or she is expected to lead. When a company is in a crisis, the CEO is expected to lead. When a company is in a crisis, the CEO is expected to lead.

When a company is in a crisis, the CEO is expected to lead. When a company is in a crisis, the CEO is expected to lead. When a company is in a crisis, the CEO is expected to lead.

When a company is in a crisis, the CEO is expected to lead. When a company is in a crisis, the CEO is expected to lead. When a company is in a crisis, the CEO is expected to lead.

When a company is in a crisis, the CEO is expected to lead. When a company is in a crisis, the CEO is expected to lead. When a company is in a crisis, the CEO is expected to lead.

Inside View

around departments, develop strategies and drive change. As tough as that can be for full-fledged executives, those in interim positions say their jobs come with extra challenges that demand a separate set of skills. They say they're fully up to the task.

"A temporary CIO needs to be a politician, analyst and therapist," says Tom Costello, president and CEO of UpStreme Inc., a consulting firm in Malvern, Pa.

That's just the start. Interim CIOs, like their permanent counterparts, must understand how technology supports a company's business goals, experts say. But because of the job's condensed time frame — temporary CIOs say the length of their assignments ranges from a few weeks to more than a year — they must be able to move more quickly than permanent execs.

Paul M. Lernerise, a partner at Atlanta-based Tetrum Partners LLP, started in January as interim CIO at Pharmavite LLC, a Northridge, Calif.-based vitamin manufacturer and distributor. He has already restructured Pharmavite's IT organization.

But Lernerise says the ability to act quickly is only one of the skills he needs. Prior experience is a must, and experience with turnaround situations is also crucial. "Otherwise," he says, "you'll fail miserably."

Still, temp execs say that's not enough. They must bridge business and technology, handle staffing issues, oversee projects and deployments —

the usual tasks of any CIO — but with neither an in-depth understanding of a company's history nor a network of familiar co-workers.

Marc Grossman, president of New York-based Smart Solutions for Health Care, places CIOs into interim positions in the health care industry. He does his homework before matching executives with clients.

He recently placed a temporary CIO at a 280-bed facility in the Northeast. Before making the placement, he asked a host of questions: Why did the previous CIO leave? Does the CIO report to the CEO or chief financial officer? What's the CEO's management style?

Grossman chose a colleague who so far seems to be the right fit: The individual has a strong technical background, is familiar with the hospital's systems and will be able to implement plans without ruffling feathers.

That last trait is often critical, experts say. Temporary CIOs must deal with a tangle of personal and professional dynamics unique to their situations. Consider, for example, working in the top IT spot after the previous CIO was fired. "You're dealing with people who are friends of the CIO, enemies of the CIO and constituents of the previous CIO," Costello says. "All these people are getting in the mix."

Given that, Lernerise says, interim CIOs must learn to use their influence quickly and effectively. "You have absolutely no span of control; you have tremendous span of influence," he says.

Someone skilled at influencing is a valuable asset, says Larry Johnson, CIO for the government of South Carolina. "When you're in an interim position, you have to be able to facilitate agreement among different parties. As an insider, you don't come in with a huge stick," he says.

When Johnson needed an interim CIO at a state agency, he named a woman who had been running an application development organization for a different state office. "This is an agency that wanted change," he says, explaining that the woman has been charged with developing a plan to upgrade the agency's infrastructure.

"She has some built-in credibility because she comes in from the outside," he explains. "She can move forward change and get people moving without worrying too much about whether this person's going to hate me in a year."

Johnson also says he picked her because she's good at getting people to talk.

Bad Cop

Other interim CIOs say that they're brought in specifically to be the "bad guy" — to get in, push through change, then move on so the permanent CIO can come in with a clean slate. "Organizations look to the interim CIO to do some of the dirty work," Shelkin says. "Bringing about change, you may create some enemies along the way. There just may be no easy way to get things done without having people hold grudges later. So having an interim guy come in — it's sort of 'good cop, bad cop.' The permanent CIO can come in without any of the baggage of having made choices that were unpopular with some people."

Steve Fiegle became interim CIO of the University of Iowa in Iowa City in January 2004, a promotion from his job as director of telecommunication and network services. He expects to stay on as interim until July, although he's also a candidate for the permanent post.

Fiegle sees limits to the amount of strategic change a temporary exec can — or should — undertake. "I'd hate to take the organization off in one direction and then have the next CIO take it off in another direction," he says.

Budget decisions illustrate his point: Fiegle struggled when he had to make cuts, trying to figure out what effect his choices would have on the strategic options he'd leave for his permanent replacement.

Despite the limits inherent in his temporary post, Fiegle says the university had no choice but to fill the

CIO spot — even if it was with a temporary leader.


"I think that we've been steadily building momentum in the past 10 years," he says, "and my role is to continue the momentum." **CS626**

Fruit is a Computerworld contributing writer in Waltham, Mass. Contact her at maryfruit@verizon.net.

ON-DEMAND CIOs

Do you need an IT chief on a part-time basis? You're not alone. Go to our Web site to learn more.

QuickLink CS626
www.computerworld.com

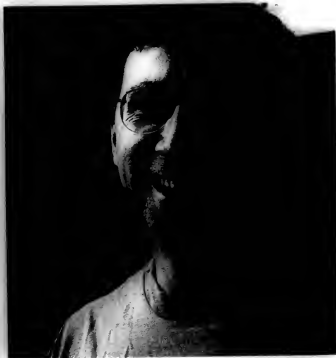


Can you see it?

IBM Workplace

1. **IBM's stockroom for '01 merlot.**
2. **Conferencing with design partners.**
3. **Orders from vendor, wirelessly.**
4. **Driver receives last-minute order.**
5. **Delivers orders quickly, accurately.**

MIDDLEWARE IS IBM SOFTWARE. IBM Workplace transforms productivity. Collaborate better with colleagues, partners and suppliers – the whole team. IBM Workplace offers fast access to critical information based on your role. With all of the collaborative tools you need to work efficiently in one environment, you can make better, more informed decisions. Faster. It's simply a better way to work.



What the Dormouse Said... examines how the '60s counterculture shaped the PC industry.

What the Dormouse Said... How the 60s Counterculture Shaped the Personal Computer Industry is John Markoff's fascinating look at the unique nexus of technology, politics and psychedelics that gave birth to the PC. Markoff talked with Kathleen Melymuka about the two very different philosophical approaches to information that divided the nascent industry at that time and still do today.


In a nutshell, how did the '60s counterculture contribute to the development of personal computing? Technologies don't happen in a vacuum. They're shaped by the society and the politics and all kinds of things. There was a remarkable convergence around Stanford in the '60s—an intersection of counterculture, people developing a new technology and politics, and it was all tied together in a remarkable way.

The shaping of the PC industry is about values—about a collision between the profit motive and the urge to share that has defined the industry and the entire digital world. It's a remarkable collision, and it began at the moment that the PC industry began.

I think that readers will be amazed at the amount of LSD use among computer engineers of Northern California's Midpeninsula area at the time. Was that just part of the

Continued on page 44

Scholars & BARBARIANS



Middleware is Everywhere.

Can you see it?

IBM

Rational

Key

1. Changes accommodated easily.
2. Scope managed efficiently.
3. Resources allocated precisely.
4. Progress monitored on dashboard.
5. Upgrade completed ahead of schedule.

MIDDLEWARE IS IBM SOFTWARE. Rational Software®

It has the power to keep any-size project on schedule. On budget. On the right track. Built on existing assets. The IBM Software Development Platform is open. Flexible. It makes change manageable, more predictable. Market-leading tools like Rational ClearCase®, Rational Unified Process® and Rational Portfolio Manager ease project management. See how. Register for the IBM Project Manager Survival Kit now.

Get the IBM Project Manager Survival Kit now at www.ibm.com/ibmprojectmanager ON  

Scholars & BARBARIANS

Continued from page 42



One of your recurring themes is what

cultural wallpaper, or did it actually affect the development of personal computing? There was a search for ways to expand the mind that took a variety of forms — everything from drugs to Doag Engelbart's development of Augment, the information retrieval system that's the precursor for all the work done at the Palo Alto Research Center, which was the precursor for all the work done at Apple and Microsoft. That's a direct line, and Augment was an example of Doag's passion to build a tool to augment human intelligence. That happened at the same time there was a lot of exploration of some of the limits of human consciousness. Some of it shows up in psychedelic drugs, some in meditation, some in Zen and EST and so on. It was all happening in the same time, and it's impossible to unwind it. A community of people was doing all kinds of experimenting with technology and psychedelics.

you call the fault line between the profit motive and the conviction that information should be shared broadly. Did that tension affect the early development of the PC? It was so much a part of stuff that happened at the MIT AI lab and later at the Stanford AI lab and later at the Homebrew Hobbyists Club. It was the spark that set off the computer industry (Steve) Wozniak designed the Apple I just to have a computer to share with his friends at the Homebrew club. Steve Jobs understood there could be a market for that and created the Apple II. You can see the tension in the relationship between Jobs and Wozniak, and it was writ large in the club.

Is that tension still affecting progress in information technology? Yeah. Ask Bill Gates what his principal competition is, and he'll say the open-source community. Not as much as Microsoft embroiled in that same tension, now as the entire world becomes digitized, that tension is spreading everywhere: the sciences, entertainment. It's ironic that with the fall of communism we thought the world would be this uniform capitalist place, but it turns out there's this alternative economic approach that probably going to define the next two or three decades. © S2005

The Crucible Of CULTURE

It is not a coincidence that although it was at the periphery of the established computing world, California is where personal computing first emerged. For most of its history, the computing establishment had been centered in the quiet New York machine factories of IBM and in the research laboratories and the emerging high-technology world surrounding MIT and Cambridge. Beginning in the '60s, however, the Midpeninsula, a relatively small region located between San Jose and San Francisco, became a crucible not only for political protest and a thriving counterculture but also for a new set of computing paradigms.

An argument can be made that the seeds of personal computing were planted simultaneously on both the East and West coasts. Certainly the idea of a single-user computer was often around Route 128 in Massachusetts as well as on the Midpeninsula in the 1950s.

With figures like Ken E. Scharf, Verner Bush, J.C.R. Licklider, Robert Taylor, Theodore Nelson and the computer hackers at MIT, all of the intellectual ingredients for personal computing exist on the East Coast. Why, then, did the passion for the PC and later the PC industry emerge first around Stanford?

The answer is that there was no discrete technological straight line to the personal computer on the East Coast. What separated the isolated experiments with small computers from the full-blown birth of personal computing was the West Coast realization that computing was a new medium, like books, records, movies, audio and television. The personal computer had the ability to encompass all of the media that had come before it and had the additional benefit of appearing at a time and place where all the old rules were being questioned. Personal computers that were designed for and belonged to single technicians would emerge initially in concert with a counter-

culture that rejected authority and considered the human spirit as able to triumph over corporate technology, not be subject to it. The East Coast computing culture didn't get it. The it computing world was hierarchical and conservative. Years later, after the PC was an established reality, Ken Olson, the founder of minicomputer maker Digital Equipment Corp., still didn't get it: He publicly asserted that there was no need for a home computer.

In the '60s, the community surrounding Stanford University was a bundle of contradictions. Outwardly, it was a sleepy college community, but there had long been a Bohemian fringe in the Bay area, and in the '50s and early '60s there was an underground that ran at cross-purposes to the middle-class mainstream. The Bohemian spirit embodied by Owen Kistner in Jack Kerouac's *On the Road* attracted a lot of counterculture.

It's easy to forget how different attitudes were toward drugs during the '60s. LSD, in particular, has become an incendiary subject. Demoralized today, its impact is gloriously denied. Yet four decades ago, LSD was a defining force in a cultural war.

For those who grew up during the 1960s, the decade is still touchstone, having transformed everyone who lived through it — and that is especially true for many of the computer scientists, entrepreneurs and hackers.

Over a span of three decades, much of the original spirit of the '60s has been lost. For many today, the era serves almost as a historical Porsche test: either an idealistic moment in time or a target for a conservative pundit to rail against.

The '60s serve a similar function for attitudes about information technology. Today, the modern computer industry has become divided into two warring camps. On one side, giant Microsoft champions the private ownership of information. Software, the company believes, is a commodity to be bought, sold and jealously guarded. Opposed to Microsoft is the growing legions of computer programmers who have formed an open-source movement that is committed to the idea that information should be free and that shared software can be used to create increasingly powerful computers.

The schism between information proprietors and information libertarians divides not only the computer industry but increasingly the entire digital world, affecting the consumer electronics, record

ing and motion picture industries. The defenders of information as private property make the case that unwielded information availability, whether in the form of its sharing or in the decision of the open-source movement, is a fundamental threat to the industry as well as innovation. Led by Microsoft and the recording and film industries, there is a great cry that the vendors are at the gates and that information sharing is the digital-age equivalent of the threat communism posed to developing industrialism in the nineteenth and twentieth centuries.

When societal benefits are weighed against those of private interests, however, the consequences of allowing information to be shared without restriction become more apparent. Consider the roots of Silicon Valley. The transistor was invented at AT&T's Bell Laboratories in New Jersey, but the giant telecommunications company was later forced to license the invention freely under the terms of an antitrust settlement with the Justice Department. The Valley's very existence — the product of the most dramatic technological and entrepreneurial boom in the nation's history — was made possible by the enforced availability of the transistor.

Likewise, the hacker's ethos of sharing information lies at the very heart of the explosive growth of the personal computer. It is not a coincidence that, during the '60s and early '70s, at the height of the protest

against the war in Vietnam, the civil rights movement and widespread experimentation with psychedelic drugs, personal computing emerged from a handful of government and corporate-funded laboratories, as well as from the work of a small group of hobbyists who were desperate to get their hands on computers they could personally control and decide to what uses it should be put. Science fiction writer William Gibson has said, "The future's already arrived. It's just not evenly distributed yet." That observation is particularly true of a very microcosm that was as localized but has become as influential in the world as Renaissance-century Florence was when it gave the world the Renaissance and a millennium ago.

© S2005

Reprinted by arrangement with Haring, a member of Penguin Group (USA) Inc., from *Within the Business Build...* by John Markert, copyright 2005 by John Markert.

Career Watch

ASK A PREMIER 100 LEADER



Mike Wells
President of applications management
Wells Real Estate
Folsom, Calif.

Q: As a Premier 100 IT Leader, are you seeing a unemployment problem in your market?

A: I see a shortage of IT talent. I see a shortage of IT talent. I see a shortage of IT talent.

Q: How do you see the IT market in the future?

A: I see a shortage of IT talent. I see a shortage of IT talent. I see a shortage of IT talent.

I have 15 years' experience in IT administration - mainframe, file servers, network and help desk, for example - but have been out of work for two years. Here in the Seattle area, about 500 to 1,000 workers respond to every ad for an IT job. I have a bachelor of science degree in electrical and computer engineering. My certifications help me land a job? I recently attended Computerworld's Premier 100 IT Leaders Conference and met several colleagues from the Seattle area. All corroborated your

story about the soft job market, but they did say that hiring is picking up. In fact, one company vice president said she would be hiring more than 100 people this year.

As for certifications, they may be helpful if 1) in the process of getting certified you acquire skills that you don't already have and those skills are in high demand, or 2) the certification alone is impressive enough to move you far up the list of the 500 to 1,000 candidates who are applying for the jobs that you mentioned.

I would prefer that you reconsider your tactics and take a different approach to finding your next job - one that is tactical and their strategic.

Start by doing a self-assessment and identify all of the IT positions that may be similar to or extensions of what you've done in the past. Then work with a recruiter to understand what skills are in high demand in your area. Match your list with the in-demand list and create a plan to fill in the gaps. You might need only a week or two of training to get there. Don't be afraid to take any reasonable job to become employed. It's easier to find a job if you have a job.

For the long term, you will need to rethink your career path. There are many hot areas in IT with high demand and long-term potential, such as IT security, compliance and document management. Also consider which industries are high-growth areas for IT. Matching a highly sought-after skill in a high-growth industry, such as health care, should yield even better results. More extensive education is required to make this type of move, but it will be worth it. Best of luck.

PEOPLESOFT INC. co-founder David A. Duffield has established a fund to aid former employees who were laid off as a result of Oracle Corp.'s takeover of the company in December, according to a report in *The Wall Street Journal*.

The *Journal* says that Duffield - who last year had a net worth of \$1.3 billion, according to a *Forbes* magazine estimate - has pledged several million dollars to the fund.

Laid-off workers who haven't landed a new job after three months and whose salaries at PeopleSoft were below \$150,000 a year are eligible for as much as \$10,000 in emergency assistance.

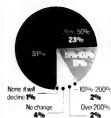
David Ogden, a former PeopleSoft marketing executive, is managing the effort, known as the Safety Net. "We have no idea if we're going to get three applications or 300," the *Journal* quotes Ogden as saying. "We hope to find the people most in need and help them."

Only one former employee has applied so far, according to Ogden. Applicants are asked to fill out a four-page form about their needs, which is then reviewed by a five-person board, he said.

Most engineers and sales representatives at PeopleSoft have been kept by Oracle, but most administrative and marketing positions were eliminated.

Rosy Outlook at Fast-Growing Tech Companies

How much will your workforce grow in the next 12 months?



How confident are you that your company will sustain its high level of growth over the next 12 months?



A Wealth Gap for Knowledge Workers

AN ONGOING STRAW POLL being conducted by New Jersey think tank Egonov Institute has so far found that knowledge workers rank themselves as being poor or rich than as doing just OK. Of the poll's first 209 respondents, 27.3% had rated themselves as "poor" (not making enough to pay the bills), 46.9% had rated themselves as "middle" (earning enough to get by), and 25.8% had rated themselves as "rich" (making enough to save and splurge). "More than one in four are telling us they're not making enough to live on," says institute director Richard W. Samson. "Are we moving toward a rich/poor economy, or knowledge work as well as society as a whole?"

Egonov is planning a formal study to investigate whether the wealth gap is increasing among the highly educated in the U.S., as it has been among the general population. If it is, says Samson, then changes of many types will be indicated - changes in social policy, education, business management and recommended career pursuits.

"The prevailing assumption," he says, "is that higher-level skills will fix our employment problems. If you've been laid off, just upgrade yourself at a community college or grad school. But what if that assumption's wrong? What if, as many high-tech people with Ph.D.s are telling us, there's a

wealth gap no matter what your skill level?" **\$3656**

The straw poll is active and may be taken and viewed at www.egonov.com

EVENTS

Diversity

■ May 9-11, New York

Sponsor: The Conference Board
The Annual Diversity Conference: The Diversity Performance Factor looks at the latest research, practice and implications of the multicultural marketplace. Topics include succession planning and leadership competence, strategy development, recruitment and development strategies, global diversity and generational differences. www.conference-board.org/conferences/

Security

■ May 11, San Francisco

Sponsor: IDC
Security Forum West: Investigating the Next Frontiers in Security and Business Continuity includes topics such as operating in a corporate environment without traditional "borderline" borders, dealing with hostile user behavior and malicious code eradication, and key components of a comprehensive tool set to combat present and future threats. www.idc.com/events

Supply Chain

■ June 1-3, Scottsdale, Ariz.

Sponsor: AMR Research Inc.
21st Century Market Leadership: The Marriage of Innovation, Operational Excellence and Technology focuses on demand-driven supply networks (DDSN). Topics include the connections between DDSN and stock market value, product innovation, supply strategy and demand management. The conference also looks at operations strategy, lean manufacturing, risks in global trade, and product chain performance management. www.amrresearch.com/events/

BPM

■ June 8-9, Boston

Sponsor: Delphi Group
The Business Process Management Bootcamp includes workshops on how to pick a process, process prioritization, orchestration and visibility, defining business logic, business rules, the BPM market landscape, differentiating software products and project planning. www.delphigroup.com/events/bootcamp/

JOHN COLUMBUS

The Hard Facts About Process

IN MY 22 years in IT, I've learned that companies and people repeat the failures of others, and one of the most often repeated mistakes is the failure to follow standard processes.

Good, basic, updated written processes are a proven method for doing quality IT work. If you don't believe it, try this: Take a piece of paper, write down some complex notes, and put it away for a month. Then take it out. Which will be more exact — your

memory, or the "memory" on the piece of paper? If you had a book with 300 pages in it, could you remember the content perfectly and recite it a month later? Most people couldn't.

In complex situations, we tend to forget steps. If you doubt this, just look at the number of computer program defects produced and the project overruns they cause.

Why do we record things? One reason is to pass on knowledge. That way, the next person doesn't have to relearn what we already know. Why follow a written process or checklist? Because it's documented wisdom you don't have to relearn.

Look at your most recent project issue lists. How many problems could have been avoided through the use of checklists? How much time, effort and money might that have saved?

Granted, the time it takes to follow processes may sometimes increase costs on small projects. If you weigh the losses due to process on small projects versus the gains on large projects, however, you'll find that process is still cost-effective.

Here are some other objections I have often heard about following writ-

ten processes:

"My ad hoc process is fine."
I hear that a lot. But it's rarely true. Those who rely on personal "perfect" memory are missing out on the combined wisdom that's codified into the written process. The number of defects that result from following an ad hoc process will almost certainly be greater than those from following a written process.

"I'm an expert. I make few mistakes, and checklists are a waste of my time." Sure you're an expert, but do you have a photographic memory? Remember that 300-page book. Regardless of your subject knowledge or years of experience, your memory won't be perfect.

It's true that a senior person avoids more pitfalls than a junior person. Still, experienced airplane pilots wouldn't dream of taking off without a checklist. No length of experience gives pilots sufficient memory to not need some form of written process for takeoffs and landings, and they're smart enough to realize that.

"Following processes takes longer and costs more than repairing the defects that you must write when processes aren't followed." Another illusion. Studies have shown how de-

fects within projects cause overruns. IBM's "Rule of 10" shows that simple errors in the beginning of a project, if not discovered until the project goes into production, can cost tens or hundreds of thousands of dollars per defect to repair. Based on that study, just one defect found early enough would make following written processes cost-effective.

"Many processes are impossible to follow." Yes, it's possible to write processes that are so generic that they apply to nothing. But that's a failure of the writer, not the concept. Yes, there are plenty of examples of old processes that no longer provide value and have become excellent jokes. But those represent failures to capture continuous learning and embed it in the process.

Processes must be updated with new learning each time they're used. Companies that expect processes to remain static in a changing world are setting themselves up for failure, but again, this is a failure in documenting continuous learning, not a failure of process itself.

"I have deadline pressures, so I can't take the time to use checklists." Without written processes, your limited memory may cause you to make a mistake. History demonstrates that someone will forget something somewhere. You're gambling that your mistakes will delay you less than the process would have, but remember the IBM Rule of 10: As you get closer to completing the project, the cost of early mistakes gets higher. By the time you realize that you've lost the bet, all you can hope for is that no one reminds you about the checklists you ignored.

☐ S3603

WANT OUR OPINION?

For more columns and links to our archives, go to www.computerworld.com/opinions



EVENTS

Diversity

■ May 9-11, New York
Sponsor: The Conference Board
The Annual Diversity Conference: The Diversity Performance Factor looks at the latest research, practice and implications of the multicultural marketplace. Topics include succession planning and leadership competence, strategy development, recruitment and development strategies, global diversity and generational differences. www.conference-board.org/conferences/

Security

■ May 11, San Francisco
Sponsor: IDC
Security Forum West: Investigating the Next Frontiers in Security and Business Continuity includes topics such as operating in a corporate environment without traditional "hardened" borders, dealing with insider user behavior and malware code eradication, and key components of a comprehensive tool set to combat present and future threats. www.idc.com/events

Supply Chain

■ June 1-3, Scottsdale, Ariz.
Sponsor: AMR Research Inc.
21st Century Market Leadership: The Marriage of Innovation, Operational Excellence and Technology focuses on demand-driven supply networks (DDSN). Topics include the connections between DDSN and stock market value, product innovation, supply strategy and demand management. The conference also looks at operations strategy, lean manufacturing, risks in global trade, and supply chain performance management. www.amrresearch.com/events/

BPM

■ June 9-10, Boston
Sponsor: Delphi Group
The Business Process Management Bootcamp includes workshops on how to pick a process, process prioritization, orchestration and visibility, delivering business logic, business rules, the BPM market landscape, differentiating software products and project planning. www.delphigroup.com/events/bootcamp/

JOHN COLUMBUS

The Hard Facts About Process

IN MY 22 years in IT, I've learned that companies and people repeat the failures of others, and one of the most often repeated mistakes is the failure to follow standard processes.

Good, basic, updated written processes are a proven method for doing quality IT work. If you don't believe it, try this: Take a piece of paper, write down some complex notes, and put it away for a month. Then take it out. Which will be more exact — your

memory, or the "memory" on the piece of paper? If you had a book with 300 pages in it, could you remember the content perfectly and recite it a month later? Most people couldn't.

In complex situations, we tend to forget steps. If you doubt this, just look at the number of computer program defects produced and the project overruns they cause.

Why do we record things?

One reason is to pass on knowledge. That way, the next person doesn't have to relearn what we already know. Why follow a written process or checklist? Because it's documented wisdom you don't have to relearn.

Look at your most recent project issue lists. How many problems could have been avoided through the use of checklists? How much time, effort and money might that have saved?

Granted, the time it takes to follow processes may sometimes increase costs on small projects. If you weigh the losses due to process on small projects versus the gains on large projects, however, you'll find that process is still cost-effective.

Here are some other objections I have often heard about following writ-

ten processes:

"My ad hoc process is fine."

I hear that a lot, but it's rarely true. Those who rely on personal "perfect" memory are missing out on the combined wisdom that's codified into the written process. The number of defects that result from following an ad hoc process will almost certainly be greater than those from following a written process.

"In an expert, I make few mistakes, and checklists are a waste of my time." Sure you're an expert, but do you have a photographic memory? Remember that 300-page book? Regardless of your subject knowledge or years of experience, your memory won't be perfect.

It's true that a senior person avoids more pitfalls than a junior person. Still, experienced airplane pilots wouldn't dream of taking off without a checklist. No length of experience gives pilots sufficient memory to not need some form of written process for takeoffs and landings, and they're more likely to realize that.

"Following processes takes longer and costs more than repeating the defects that may result when processes aren't followed." Another illusion. Studies have shown how de-

fects within projects cause overruns. IBM's "Rule of 10" shows that simple errors in the beginning of a project, if not discovered until the project goes into production, can cost tens or hundreds of thousands of dollars per defect to repair. Based on that study, just one defect found early enough would make following written processes cost-effective.

"Many processes are impossible to follow."

Yes, it's possible to write processes that are so generic that they apply to nothing. But that's a failure of the writer, not the concept. Yes, there are plenty of examples of old processes that no longer provide value and have become excellent jokes. But those represent failures to capture continuous learning and embed it in the process.

Processes must be updated with new learning each time they're used. Companies that expect processes to remain static in a changing world are setting themselves up for failure, but again, this is a failure in documenting continuous learning, not a failure of process itself.

"I have diverse pressures, so I can't take the time to use checklists." Without written processes, your limited memory may cause you to make a mistake. History demonstrates that someone will forget something somewhere. You're gambling that your mistakes will delay you less than the process would have, but remember the IBM Rule of 10: As you get closer to completing the project, the cost of early mistakes gets higher. By the time you realize that you've lost the bet, all you can hope for is that no one reminds you about the checklists you ignored.

© SMOOS

WANT OUR OPINION?

For more columns and links to our archives, go to www.computerworld.com/opinion





For more information about business continuity

Go: up for a promotion

...AND RUNNING WITH EMC BUSINESS CONTINUITY SOLUTIONS.
...a broad range of software, services, and systems built for your needs today, and the flexibility to add
...capabilities tomorrow. Whether it's reliable backup and restore, or realtime, multi-site replication,
...make business continuity a reality. Ensuring your information and applications will always be there
...them. To learn more, visit www.EMC.com/continuity.

EMC and the EMC logo are registered trademarks of EMC Corporation. © 2004 EMC Corporation. All rights reserved.

Permanent position as
Consulting Eng. 3 yrs.
Sells, Brew/Heaton 7.1.
1.1. REP, Public Co.
Sprint, GE, Tel. Am. Int.
Int'l. Co., Graco
Co., Inc., Deere
Corp., Logix, Planet, KML,
J&P, K&L Stearns
EV SPC's & Buil. Ltd. Know
the Serv. network. Know
the Analyze require.
Design & Develop port
sites

Trustworthy Software
experienced Sr. Soft-
ware Engineer with B.Sc. Comp.
or equiv. Will design, develop
and test secure middle
and network protocols.
Unix/Windows and embed-
ded C++ with STL/QT and
auth. (SSL, RSA, etc.
certs). Will manage
and doc. for defense
banking products
resume to 3423 Inver-
ness, Ste 16, Haywards
94545, Attn: HR

ers you information
levant career
topics relative to
t.
s coming up next:

Bio Tech

to take advantage
at opportunity to
company or displa
tment message in
ers amid these
ized editorials

careers

Visit us at:
careers.com

Powered by:
McGraw-Hill

FRANK HAYES • FRANKLY SPEAKING

Patently Fair

AT LONG LAST, the U.S. Congress has taken up the controversial issue of software patents. Last week, a draft of new legislation was publicly circulated, and a congressional subcommittee held the first hearings on the proposed law, whose primary purpose appears to be — wait, you may want to sit down for this. Its primary purpose seems to be to save Microsoft a half-billion dollars.

Is that unfair? Well, maybe. Let's say that one of the proposed law's purposes is to overturn *Eolas v. Microsoft*, the lawsuit in which a jury in 2003 awarded \$521 million to a company that said Microsoft infringed on its software patents.

What, you thought patent reform was going to be good for you?

Actually, it might be. Right now, software patents are one of the biggest intellectual-property pain points in the IT industry. And the pain pretty much crosses the usual divides. Big proprietary software vendors, open-source developers and even individual corporate IT shops have to worry about infringing someone else's software patents.

And because of the way the system is currently set up, it's impossible to be sure that software doesn't infringe a patent. Patents aren't like copyrights, where you infringe by copying someone else's work. With patents, you can infringe even if you think you invented a technology yourself. You may never have seen the invention whose patent you've infringed.

In fact, you're likely not to have seen it, since patent applications currently aren't published while the U.S. Patent and Trademark Office is examining whether a patent should be issued.

That means software developers are working in the dark, hoping they won't run afoul of patents they don't know exist. And if a patent is infringed, the patent holder pretty much has the infringer over a barrel. No wonder so many people have lined up against them.

Of course, some of the people lined up against them also favor software patents. Case in point: Microsoft. The company likes some software patents, especially the ones it owns. It hates other software patents, particularly the ones belonging to companies like Eolas Technologies that have been used to hammer Microsoft with lawsuits over the past few years.

So Microsoft has lobbied hard for patent law changes. So have the Intellectual Property Owners Association, the Business Software Alliance and other groups, each with a slightly different agenda. The proposed law has a little something for everyone — especially Microsoft.

But that's not all bad. Under the draft legislation (which, remember, is a long way from being law), it will be harder to prove that a software invention deserves a patent and easier to challenge the patent once it's issued. Damages will be limited. It will be harder to get an injunction that stops an accused infringer from selling its products. And all patent applications will be published once they've been in the pipeline for 18 months.

There's also specific language tailored to overturn *Eolas v. Microsoft* and eliminate any chance that Microsoft will have to pay that \$521 million. Some surprise, huh?

The one thing the new legislation won't change is the existence of software patents in the U.S. This version of patent reform pretty much ends any hope that Congress will get rid of software patents.

We've had them for more than 20 years now, since a U.S. Supreme Court decision in 1981. They'll still be a problem for software vendors.

But the proposed law really could help clean up the process and limit uncertainty for software developers. They'll have a fighting chance of avoiding software patent infringement. That should be good for everyone working on software.

Even you. And, yes, especially Microsoft. ☐ 530229



FRANK HAYES, Computerworld's senior news columnist, has covered IT for more than 20 years. Contact him at frank.hayes@computerworld.com.

Because They're Servers!

Pilot fish has already been through a detailed data-security audit for all 100 of the Windows servers in his care. Then the Sarbanes-Oxley auditor asks for a list of network protocols installed on the servers. Next comes this one: "If any of these services or protocols are enabled for normal business operations, I need to obtain an explanation: Repsola Access Service, TCP/IP, NetBIOS, NetBEUI..."

Just Because
Now employees
calls support
pilot fish the first
time he tries to work
from home. His com-
plaint: He can't see any-
thing on the company's
network. "After playing
20 questions, I discov-
ered he hadn't estab-
lished a VPN connection
first," fish says. "His re-
sponse? 'I don't know to
do that of the office.
Why should I have to do
it at home?'"

Shark Tank
Superior
My Color ID is wrong,
now kids talk help desk
pilot fish. "Steve I had
not her up initially, I
have everything was
working correctly, on I
went up to see her," fish
says. "She pointed to
the display on her phone
and told me that her
name wasn't Mark's. It
was Sarah. I explained
that 'Mark' was actually
the date - MARCH 10. All
her new colleagues now
call her Mark's."

Tag, You're It
My PC says "best device
holders" when I start it,
remote user talks pilot
fish. "I asked the user to
find and send me the
current log of the ser-
vices," fish says. "That
is, to e-mail me the num-
ber. A few days went by
and I hadn't heard a
thing. Then the mail ar-
rived: Sure enough, it
was overnight FedEx: cov-
erage was the physical
tag posted from the sys-
tem, sent right to me!"

Hardware Fix
Profound user calls
help desk about a mem-
ory stick's flaking badly.
"It's impossible to work
with this device, especial-
ly on many days, and it
starts around 1 p.m.,"
user says. Pilot fish visits
user's cube, surveys the
area.

Useless Case
Developer pilot fish's
team is working on a
large financial system,
so they decide to do a
one-use study. "The
idea was that users
could give us the basic
money we want they're
happening and what it
means," fish reports.
"We went to our first
user and asked him to
explain the system to us.
He said, 'Look, I take
this number here on this
paper and type it into the
little box on this screen.'
What is the number used
for? we asked. 'Like I
said, I take this number
from this paper...'"

Q MAKE YOUR TIME WALK OF IT file and type it to a
message to shark@computerworld.com. You'll
 snag a weekly Shark if it's up it. And check me the deli
 best, between the Stateside and sign up for Shark Tank
 home delivery at computerworld.com/shark.

FRANK HAYES • FRANKLY SPEAKING

Patently Fair

AT LONG LAST, the U.S. Congress has taken up the controversial issue of software patents. Last week, a draft of new legislation was publicly circulated, and a congressional subcommittee held the first hearings on the proposed law, whose primary purpose appears to be — wait, you may want to sit down for this. Its primary purpose seems to be to save Microsoft a half-billion dollars.

Is that unfair? Well, maybe. Let's say that one of the proposed law's purposes is to overturn *Eolas v. Microsoft*, the lawsuit in which a jury in 2003 awarded \$521 million to a company that said Microsoft infringed on its software patents.

What, you thought patent reform was going to be good for you?

Actually, it might be. Right now, software patents are one of the biggest intellectual-property pain points in the IT industry. And the pain pretty much crosses the usual divides. Big proprietary software vendors, open-source developers and even individual corporate IT shops have to worry about infringing someone else's software patents.

And because of the way the system is currently set up, it's impossible to be sure that software doesn't infringe a patent. Patents aren't like copyrights, where you infringe by copying someone else's work. With patents, you can infringe even if you think you invented a technology yourself. You may never have seen the invention whose patent you've infringed.

In fact, you're likely not to have seen it, since patent applications currently aren't published while the U.S. Patent and Trademark Office is examining whether a patent should be issued.

That means software developers are working in the dark, hoping they won't run afoul of patents they don't know exist. And if a patent is infringed, the patent holder pretty much has the infringer over a barrel. No wonder so many people have lined up against them.

Of course, some of the people lined up against them also favor software patents. Case in point: Microsoft. The company likes some software patents, especially the ones it owns. It hates other software patents, particularly the ones belonging to companies like Eolas Technologies that have been used to hammer Microsoft with lawsuits over the past few years.

So Microsoft has lobbied hard for patent law changes. So have the Intellectual Property Owners Association, the Business Software Alliance and other groups, each with a slightly different agenda. The proposed law has a little something for everyone — especially Microsoft.

But that's not all bad. Under the draft legislation (which, remember, is a long way from being law), it will be harder to prove that a software invention deserves a patent and easier to challenge the patent once it's issued. Damages will be limited. It will be harder to get an injunction that stops an accused infringer from selling its products. And all patent applications will be published once they've been in the pipeline for 18 months.

There's also specific language tailored to overturn *Eolas v. Microsoft* and eliminate any chance that Microsoft will have to pay that \$521 million. Some surprise, huh?

The one thing the new legislation won't change is the existence of software patents in the U.S. This version of patent reform pretty much ends any hope that Congress will get rid of software patents.

We've had them for more than 20 years now, since a U.S. Supreme Court decision in 1981. They'll still be a problem for software vendors.

But the proposed law really could help clean up the process and limit uncertainty for software developers. They'll have a fighting chance of avoiding software patent infringement. That should be good for everyone working on software.

Even you. And, yes, especially Microsoft. © 53029



WE MAKE IT WORK



SECURING YOUR
BUSINESS

CASE STUDY: A HIPAA Hospital Diagnosis

Facing important HIPAA compliance deadlines, a regional hospital in the Southwest turned to Insight for help. The hospital wanted an outside review to ensure its systems could pass the test. Diagnosing everything from data backup and virus protection to Web and facility security, Insight's Secure IT Remote Risk Assessment identified important issues, prioritized risks and proposed solutions to solve them. Armed with this information, the IT team can now focus its efforts to realize HIPAA data security compliance.

www.insight.com/CW ▼ 800.998.8052

Insight

Source Code: AD0021

Insight and the Insight logo are registered trademarks of Insight Direct USA, Inc. IT for the Way You Work is a trademark of Insight Direct USA, Inc. All other trademarks, registered trademarks, logos and illustrations are property of their respective owners. ©2005 Insight Direct USA, Inc. All rights reserved.

See us at the 1997 HP World Wide Conference

